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## Master Thesis

# Stressors Experienced by Female Students Enrolled in an International Baccalaureate Diploma Programme in Norway

Årsaker til stress hos unge norske kvinner som går på et International Baccalaureate Diploma  
Program

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## List of abbreviations

AP: advanced placement

CAS: creativity, activity and service

CATS: Cognitive activation theory of stress

CMRTE: Cognitive-motivational-relational theory of emotion

DP: diploma programme

GEP: general education programme

IB: International Baccalaureate

NIFU: Nordic Institute for Studies in Innovation, Research and Education

NSD: Norwegian Centre for Research Data

NOVA: Norwegian Social Research

SES: social economic status

SHC: subjective health complaints

SHP: Subjektive helseplager [subjective health complaints]

SOC: sense of coherence

TOK: Theory of knowledge

TTS: Transactional theory of stress

UK: United Kingdoms

US: United States



## Abstract

Norwegian adolescents report increasing levels of perceived stress. Of them, female students report experiencing more stress than the male students do. Female students enrolled in an International Baccalaureate Diploma programme (IBDP) report even higher levels of perceived stress, compared to general education student population and their male counterparts. The sustained stress response appears to be detrimental to human health and is vital to understand what causes female students to stress in order to prevent the sustained stress response often experienced. We also know that stress is related to everyday subjective health complaints, which are common amongst Norwegians. The purpose of the present study was to explore and learn about what leads female Norwegian IBDP students to experience high levels of stress, how stress is experienced, and the different coping strategies the female students use to deal with their stress. Seven Norwegian female IBDP students, aged between 17 and 18 years, were interviewed about their lived experience with stress. The semi-structured interviews were audio recorded, transcribed, and then analysed using thematic analysis. It was a consensus amongst the participants that school was the major area in their lives where they experienced stress, yet the participants frequently discussed other stressors, like the need to balance time and demands, the pressure related to being teenagers, and the expectations from the society to act and behave a specific way. Feeling tired, loss of sleep, headache, restlessness, and not being able to do anything are examples of how the interviewed students experienced stress. Social support, time and task management, taking short and long breaks, redirecting their thoughts, control and working hard were the coping strategies these students employed. Considering that academic achievement and societal stressors for youth experienced by female IBDP students most likely will neither decrease nor disappear, this study takes an important step in understanding their stress experience and how it is handled by the female IBDP students. These findings are consistent with the findings of similar research in the field and add key in depth insights concerning the stress and coping of adolescents in Norway. As such, they may offer valuable knowledge and ideas for coping with stress to other students in high achievement academic environments.

### Sammendrag

Norsk ungdom rapporterer i økende grad å oppleve stress, hvor unge kvinner opplever mer stress enn det unge mennene gjør. Elever som går på linja International Baccalaureate Diploma programme (IBDP) på videregående ser ut til å oppleve mer stress enn elever ved andre linjer på videregående, hvor kvinnelige elever opplever mer stress enn det de mannlige elevene gjør. Langvarig stress over flere år kan ha en negativ effekt på helsa, og det er derfor viktig at vi forstår hva hvordan stress opplevelse, hva som er årsakene til stresset og hvordan stress håndteres. Men denne kunnskapen er vi i høyere grad rustet til å møte de ulike utfordringene vi møter. Vi vet også at subjektive helseplager er relatert til helse, og en at subjektive helseplager er en vanlig problemstilling for mange Nordmenn. Hensikten med denne studien var å forstå og undersøke de ulike årsakene til at unge kvinner på IBDP opplever mye stress. I tillegg var hensikten å forstå hvordan disse unge kvinnene opplever stress, med andre ord hvordan det kjennes å være stresset, hvordan de oppdager at de er stresset og hvordan de reagerer på stress. Et tredje formål med studien var å identifisere de ulike teknikkene de unge kvinnene bruke for å håndtere stress. Kvalitative dybdeintervjuer ble gjennomført med sju kvinnelige IBDP elever i en alder mellom 17 og 18 år. Intervjuene ble tatt opp på lydbånd, transkribert og analysert ved bruk av tematisk analyse. Det var en enighet blant de kvinnelige elevene at stress relatert til skole var den største årsaken til at de opplevde stress. Andre årsaker til stress ble også mye snakket om, som blant annet var å balansere tid og oppgaver/gjøremål og årsaker som var knyttet til det å være tenåring, forventninger fra venner og familie, og et press fra samfunnet om å prestere og handle på en bestemt måte. Opplevelsen av å være stresset var preget av de rent fysiske signalene stress kan gi. Sosial støtte, planlegging, korte og lange pauser, høy kontroll og hardt arbeid var mye nevnte strategier for å håndtere stress. Funnene fra denne studien er støttet opp fra funn fra tidligere studier, men gir oss også ny forståelse på området. Det er lite sannsynlig å se en reduksjon av årsakene til stress, og det er derfor viktig for folkehelsa at vi forstår hvordan stress oppleves, hvor det kommer fra og hvordan vi kan håndtere stress, da flere og flere i befolkningen ser ut til å oppleve mye stress. Denne studien kan gi oss verdifull kunnskap og innsikt om stress mestring blant elever som er en del av et miljø hvor akademisk prestasjon er svært viktig.

## **Chapter 1**

### **Introduction**

Norwegian adolescents report a steadily increasing level of perceived stress (Moksnes, Løhre, Lillefjell, Byrne, & Haugan, 2016; Moksnes, Espnes, & Haugan, 2014; Moksnes, Moljord, Espnes, & Byrne, 2010) and stress-related symptoms (e.g., headache, tiredness, loss of sleep) (NOVA, 2013, 2014, 2015, 2016). Recent student surveys in Norway report high occurrence of perceived stress among Norwegian adolescents, with a higher occurrence amongst the female students (Moksnes et al., 2014; Moksnes et al., 2010). Perceived stress is found to be higher amongst students in rigorous academic programs such as the International Baccalaureate Diploma programme (IBDP) than in students enrolled in general education programs (GEP) (Suldo, Shaunessy, & Hardesty, 2008b; Suldo, Shaunessy, Thalji, Michalowski, & Shaffer, 2009). Furthermore, female IBDP students report higher levels of perceived stress than their male counterparts do (Suldo & Shaunessy-Dedrick, 2013a).

Research conducted in Norway reveals little about how adolescents experience stress, and what leads them to experience high levels of stress. There has been no research in Norway asking the stressed adolescents about how they experience stress, how they handle the stress, and what causes them to experience stress. There is a need for understanding the phenomenon, and we cannot truly comprehend stress if those who experience it do not elaborate on it. Hence, it is necessary to listen to the adolescents before we can say something about how stress affects them and how to cope with the stress they experience.

In everyday language the term stress is commonly used to describe the stimulus (e.g., the large amount of homework from school), the experience of the stimulus (e.g., the experience of feeling stressed), and the stress response (e.g., how the stress caused by large amounts of homework affects the student's life and health) (Pensgaard & Ursin, 1998).

Lazarus and Folkmann (1984) defined stress as “a particular relationship between the person

and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (p. 19). The Norwegian activity handbook defines stress as “a state of increased psychological, physiological and behavioural readiness, which is the alarm reaction in the body” (The Norwegian Directorate of Health, 2008, p. 602). Lazarus and Folkman (1984) defined the stimulus as the event impinging on the individual, yet a stimulus can also be a condition arising within the individual.

Stress can be positive and/or negative for the health of humans (Eriksen, Murison, Pensgaard, & Ursin, 2005). It is when the individual experiences sustained stress or evaluates that he or she cannot cope with the stressor(s) that it may be negative for the person’s health (Ursin & Eriksen, 2004). If the stress is coped with or the individual evaluates the stimulus to be good for his or her wellbeing, then the stress experience can be a positive one. Stress over a long period of time might eventually lead to exhaustion where the energy of the body is depleted. Commonly this is labeled as burnout (Sapolsky, 2004). Ursin and Eriksen (2002) argue for the relationship between stress and subjective health complaints (SHC). The most common complaints are muscle pain, vague and unspecific gastrointestinal problems, and sleep problems. Ihlebaek, Eriksen and Ursin (2002) found that the prevalence of SHC was rather common in Norway. Eighty percent of their study’s participants, for example, reported experiencing muscle pain. Additionally, we know that SHC are related to lower performance and higher sick leave (Ihlebaek et al., 2002), which makes this topic an important public health concern.

It has been predicted that adolescents who experience high levels of stress will in the future need treatment or help with regard to stress (Perski, 2006). In other words, the effects stress has on one’s body might put one at a higher risk of reduced health in the future. Because sustained stress response (stress experienced over a period of years) might have a negative impact on health, it is key to prevent sustained stress from occurring.

In the society we live in today, it is highly unlikely that we will see a decrease of stressors and it is therefore important to focus our attention on how we experience stress and how we cope it. If we can prevent the sustained stress response from occurring by learning how to cope with stressors timely and what to expect from different stimuli, we may be in a position to change the negative experience into a positive one. It is also important to point out that the number of people experiencing high levels of stress, both amongst in the young (NOVA, 2013, 2014, 2015, 2016) and the adult population (The Norwegian Directorate of Health, 2008) is already high and is increasing further. Stress is also a key factor when it comes to mental disorders and mental health (WHO, 2016; WHO, 2017). Stress appears to play a negative role in relation to mental disorders (e.g., high levels of perceived stress facilitate depression) (WHO, 2016), while stress management is positively related to mental health (i.e., managing stress well is related to a good mental health) (WHO, 2017). Therefore, the effective management of stress is of key interest to public health.

Considering the absence of qualitative research on the stress experience of female IBDP students in Norway, the purpose of this study was to conduct an in-depth exploration of the factors that cause these young students to feel stressed (that is, the perceived stimuli they experience that caused the feelings of stress). To widen our understanding of the stress experience in female IBDP students, the study also explored how these students experienced their stress and the different strategies they employed to cope with the perceived stress. The researcher did not focus on male IBDP students, because the female IBDP students report higher stress levels (Suldo & Shaunessy-Dedrick, 2013a). Since the main aim was to develop an in-depth understanding of stress in female students, differences between genders and differences between high school programs were also not in the scope of this study. The study followed a qualitative methodology and stress was treated as perceived stress since it was not measured.

**Research Questions**

The main question of the study was as follows: “What stress stimuli cause Norwegian female students enrolled in an International Baccalaureate Diploma programme to experience stress?” Two additional questions were undertaken in order to enrich our understanding for the phenomenon of stress as experienced by the young female students: “How do Norwegian female students enrolled in an International Baccalaureate Diploma programme experience stress?” and “What coping strategies do Norwegian female students enrolled at an International Baccalaureate Diploma programme employ to cope with the perceived stress?”

**Outline of the Thesis**

The thesis is organized in five chapters. The introduction presents a brief review of the topic of stress in young Norwegian adolescents, the rationale and aims of the study along with how these fit within the existing literature, and finally the research questions that guided the study. The literature review chapter explores in depth the existing literature that is of relevance to this study and three theoretical frameworks explaining stress. It ends with an argumentation for the framework to inform the present study. The methodology chapter elaborates on the research design, the worldview the study is based on, its ontology and epistemology, the different methods employed to collect data and sample the interviewees, the analysis performed, as well as on study-relevant trustworthiness and ethical matters. Furthermore, the findings are presented in a separate chapter, while the last chapter is the discussion of the findings leading to the conclusion of the study. In the final chapter, the strengths and limitations of the present study are addressed and suggestions for future research are offered.

## Chapter 2

### Literature Review

The literature review is organized in two sections. In the first section, early stress research, research from Norway and elsewhere, specific research on stress in IBDP students, and qualitative research on stress and young females is presented. In the second section, three commonly used theoretical frameworks explaining stress are presented and the argumentation for choosing one of them.

### Literature Review

**Early stress research.** In 1932 Cannon described stress as a biological reaction to danger or a challenge. Stress hormones are released in the body to prepare it for the danger or challenge ahead. Today we refer to this biological reaction as the “fight or flight” response. The first one to describe stress as a non-specific physical response was Selye (1936). He observed that physical and emotional stimuli brought about a physiological response that resulted in an imbalance in the homeostasis. Even if the stimulus was not removed, the imbalance in the homeostasis was restored to normal. Based on these observations, Selye (1936) formulated the General Adaptation Syndrome (GAS) model. The GAS model consisted of three stages: the immediate stage (alarm stage), the resistance stage, and the adaptation-to-stressor stage. In the first stage (alarm), a stimulus is presented to the individual and the body responds with energy mobilization. In the second stage (resistance), arousal is increased and maintained. In the last stage (adaptation), the body adapts to the stimulus. If the stimulus remains and does not decrease, the body’s energy levels are depleted and it reaches an exhaustion stage, where the risk for negative health outcomes increases (Selye, 1936, 1978).

**Research addressing stress and young females in Scandinavia.** School related stress has been a major focus in research on stress in adolescents. Recently Moksnes et al. (2016) investigated the relationship between stress related to school, life satisfaction, and depressive symptoms in female students aged between 13 and 18 years of old. They found that the female students who experienced the most school-related stress tended to be depressed and less satisfied with their lives. Female students who experienced stress arising from interactions with their teachers reported higher levels of depressive symptoms and less satisfaction with life (Moksnes et al., 2016). This study was based on self-reported student surveys and a limitation of this type of study is that it is not possible to find causal directions amongst the variables. Variables that were not included in the survey (such as personality differences and different degrees of social support) might also explain the findings. Whenever a study's findings are based on self-report methods, one always has to consider the possibility of subjective bias in the reports (Bryman, 2012).

An earlier school-based survey in Norway by Moksnes et al. (2014) found the same pattern of high occurrence of stress amongst adolescents. The study investigated the relationship between perceived stress, sense of coherence (SOC), and emotional symptoms (depression and anxiety). Female students reported higher occurrence of stress than the males did, and they scored higher on stress related to peer pressure, life at home, school/leisure conflict, and emotional symptoms than the males did. SOC theory was developed by Antonovsky (1987) appraising the resources (internal and external) individuals possess that enable them to deal with life challenges in a healthy manner (Antonovsky, 2012). An individual with a high SOC tends to choose suitable strategies to address challenges (Antonovsky, 2012). Moksnes et al. (2014) found that male students scored higher than female students did on SOC abilities. Hence, if the male students have better sets of coping skills than the female students do, this could explain why female students report more stress.



However, it is difficult to look at causal directions between the variables in this study because the researchers used a cross-sectional design.

Another cross-sectional study from Moksnes et al. (2010) investigated gender differences in the domains of stress, self-esteem, and emotional states (depression and anxiety). Female students scored higher than the male students in all domains of stress and emotional states, whereas male students scored higher on self-esteem. Positive significant relationships were also found between stress and peer pressure, stress and home life, stress and school performance, and stress and adult responsibility. Lastly, an inverse significant relationship between self-esteem and emotional states was also reported.

Outside Norway, we find a similar pattern of high occurrence of stress amongst adolescents and of gender difference in perceived stress. In Sweden, Wiklund et al. (2012) explored the relationship between perceived stress and mental health, and perceived stress and subjective health complaints amongst Swedish youth between 16 and 18 years of age. Via a school survey, they found similar gender differences in students' perceived stress as found in Norway (female students perceived more stress than the males did). The study also found that the males had less health complaints and reported less pressure from school than the female students. The differences between genders related to subjective health and mental health complaints (headaches, fatigue, sleep difficulties, and so on) where the female students reported higher occurrence than the males did (Wiklund et al., 2012).

**Qualitative research on stress and adolescents.** Youngminds conduct an annual survey concerning young females' wellbeing. According to this survey, the two top concerns amongst young females in the UK in 2015 were mental health and self-harm (Girlguiding, 2016). Because these top concerns contrasted with the top concerns reported in Youngminds' 2010 survey (binge drinking, smoking and drugs), the charity decided to ask groups of young females about their wellbeing. Focus groups interviews with 127 young females, aged 7 to 18,

were conducted. The findings revealed that girls perceived enormous amounts of pressure from several sources. Pressure coming from school, to fit in, to do a good job, and to behave in certain ways were identified as sources of stress. Social factors (friends, family, school, physical status and so on) also appear to be major sources of stress for young females (Schneider, 2011). Pressure and demands from external stressors are highly related to the norms in the society and the environment, while peer support and the pursuit of hobbies and personal interests were found to be key means for improving females' wellbeing (Girlguiding, 2016).

In another study by Suldo, Shaunessy, Michalowski, and Shaffer (2008a), focus group interviews were also conducted. Forty-eight students from an IBDP participated in eight focus group interviews. The students were divided into groups according to level of anxiety. The aim of the study was to uncover coping styles that IBDP students use and determine which coping styles relate to varying levels of psychopathology. Upon transcribing and analyzing the data, they found that active problem solving and avoidance of demands were the two most common coping styles among the IBDP students. Seeking social support was discussed more often amongst the students in the focus groups who reported above average levels of anxiety, while students in the lower anxiety groups were more likely to discuss avoiding demands, reducing workload, and seeking positive emotions (Suldo et al., 2008a).

Shaunessy-Dedrick et al. (2015) conducted 30 qualitative interviews with 15 successful and 15 struggling AP/IBDP students. They investigated stimuli, coping styles, and intrapersonal and environmental factors that the students perceived as influential towards their success in school. The study included both female and male students. They found that numerous academic demands, seeking balance between academic goals, social needs, and extracurricular activities were the most frequent stimuli. Coping styles relating to success included time and task management, seeking temporary diversions, and cognitive reappraisal.

In addition, strong work ethic and high achievement motivation were identified as personality traits of the successful students, along with their tendency to seek support from a broad network of peers, parents, and teachers. All of these environmental factors were found to contribute to their success. A limitation to this study is that there is no way to verify whether the students were appropriately categorized (struggling or successful), as the school selected the students and divided them into the two groups. The schools might have classified the students using various criteria (e.g., grades or emotional well-being or behavior).

**Research on IBDP and stress.** International Baccalaureate “is a non-profit educational foundation offering four highly respected programs of international education that develop the intellectual, personal, emotional and social skills needed to live, learn and work in a rapidly globalizing world” (International Baccalaureate, n. d.). In addition to what the general education programs teach their students, IBDP students are taught extensive in-depth content, communication skills, global understanding, and how to be aware of and to understand their own thought processes. IBDP students are also required to engage in service to the community (through the subject “creativity, activity and service”) (Suldo & Shaunessy-Dedrick, 2013a). Students at the IBDP view the programme as hard, but worth the work (Conley, McGaughy, Davis-Molin, Farkas, & Fukuda, 2014).

Suldo et al. (2008b) investigated the relationship between stress, coping, and mental health at an IBDP in an American high school. A survey was administered to IBDP students and to students in a general education programme (GEP). By including students from both the IBDP and the GEP, the study could compare the two groups and see if and how they differed from each other. They reported that IBDP students perceived significantly higher levels of stress than the GEP students did (Suldo et al., 2008b). In addition, IBDP students seemed to use different coping styles; they used anger and positive appraisal to cope more often than the GEP students did. Mental state was found to relate to the choice of coping style, with students

who used coping styles relating to negative emotions or negative behaviors having a lower mental state (Suldo et al., 2008b). The low participant rate of GEP students in the study might have influenced these findings. In addition, a hurricane (stressful event) had hit the area five weeks before data collection and might have also influenced the study's findings (Suldo et al., 2008b).

Suldo et al. (2009) conducted another study in which the environmental sources of stress and psychological adjustments in IBDP students and GEP students were compared. Again, the IBDP students reported higher levels of stress than the GEP students did. Academic requirements were identified as the primary source of stress for the IBDP students, while the GEP students identified (to a greater extent than the IBDP students) parent-child relationships, academic struggles, conflicts with family, peer relations, social relations, and role transitions as their sources of stress.

Suldo and Shaunessy-Dedrick (2013a) investigated the relationship between levels of perceived stress and psychological functioning. On two occasions (the summer before IB and fall after starting IB), a group of IBDP students and a group of GEP students answered a self-report questionnaire. The results from the questionnaires showed that IBDP students perceived more stress than the GEP students did. The IBDP students reported more stress in the second round of data collection, compared to the first round. This indicates that being an IBDP student is stressful and that the additional academic requirements are more stressing in IBDP than in GEP. The GEP students did not report significantly higher stress levels in the second round of data collection. Despite the difference in perceived stress between IBDP students and GEP students, IBDP students did not differ in psychological functioning when compared to the GEP ones.

Suldo and Shaunessy-Dedrick (2013b) used a cross-sectional design and aimed to explore whether levels of perceived stress co-occurred with psychological and/or academic

problems in adolescents enrolled at an academically challenging high school program. They also aimed to discover whether IBDP/advanced placement (AP) students and GEP students differed. Higher levels of perceived stress in IBDP/AP students as compared to GEP students were also found in this study. Results showed that high levels of perceived stress were not always related to negative outcomes from stress. Even though the IBDP/AP students reported higher levels of perceived stress than GEP students, they maintained their exceptionally high academic performance. Additionally, the IBDP/AP students psychological functioning was not found to be different from that of the GEP students.

### **Theoretical Framework**

A theoretical framework is important when the aim is to understand stress, what causes it, how it is experienced, and how individuals cope with it. The Transactional Theory of Stress (TTS; Lazarus & Folkman, 1984; 1987), the Cognitive-Motivational-Relational Theory of Emotion (CMRTE; Lazarus, 1991), and more recently, the Cognitive Activation Theory of Stress (CATS; Ursin & Eriksen, 2004) are three theories that have been previously used in stress research.

According to the TTS stress is caused by demands placed on the individual and his/her perceived coping resources. More specifically stress is caused when there is an imbalance between the demands from the environment placed upon the individual and the appraisal of his/her resources to cope with demands-at-hand. Appraisal concerns the perceived stressor which influences the individual's well being (Lazarus & Folkman, 1987). At all times humans evaluate the challenges presented at them and whether a challenge has any significance for their wellbeing (e.g., What does this mean for me personally?). The appraisal is what determines if and how an individual will cope with the challenge (Lazarus & Folkman, 1987).

The CMRTE (Lazarus, 1991) introduces the aspects of emotions and purports that stress and emotions are two sides of the same coin: when there is stress emotions also occur.

Negative emotions like anger, envy, jealousy, anxiety, fright, guilt, shame, and sadness usually arise when stressful events occur (e.g., harmful, challenging or threatening conditions). Positive emotions like happiness, love, and gratitude also might occur alongside stressful events (e.g., getting good grades on the final exam after doing a lot of homework and studying). When a person experiences emotions (but not always), the person also might be experiencing stress (Lazarus, 1991). Stress can be negative or positive for the individual, just as explained by the TTS.

CATS, brings out four aspects of stress (Ursin & Eriksen, 2004). These four aspects are viewed as an alarm system, in which the general, non-specific stress response is regarded as an alarm that raises one's level of arousal to higher arousal (Eriksen et al. 2005). Figure 1 (see Appendix L) depicts the role of each aspect: 1) the stimulus is presented to the individual; 2) the brain evaluates the presented stimulus; 3) the evaluation can result in a stress response; 4) feedback is given to the brain; and 5) another round of evaluation occurs by the brain, where the perception of the stimulus can be altered by expectancies and coping strategies. The stimulus can be both internal and/or external. A stress stimulus, for example, can come from demands from parents, friends, or teachers; or from having too much to do; or from having a presentation in class the next day. All stimuli are evaluated and filtered by the brain before they result in any response. A stimulus signals a challenge to the body, and this is evaluated based on previous experiences, labeled as stimulus or response outcome expectancies (Pensgaard & Ursin, 1998).

Expectations regarding the situation and the individual's evaluation as to whether he or she can cope with it or not determine what impact the stress stimulus will have on the individual, if any. That evaluation is highly influenced by previous learning and experience with regard to the stimulus. Expectations of how the response will be handled can be either positive ("I have skills to deal with this stress stimulus, and therefore I will handle this"),

negative (“I do not have the skill that is required to deal with this stress stimulus, and therefore I will experience failure”) or there can be no expectancy (“I do not know what is needed to deal with this situation, and therefore I don’t know what my coping skills will lead to”) (Eriksen et al., 2005). Expectancy (what is stored in the brain) is an important element in CATS, in which learning is regarded as an acquisition of expectancy. Learning happens in two stages. Stage one is stimulus-stimulus learning, and it occurs when the brain learns that there is a relationship between stimuli (that one stimulus follows another stimulus). The individual learns, and therefore expects, that a certain stimulus gives a certain stress response. The second stage of learning involves the establishment of expectancy that one types of action leads to a consequence.

High expectancies acquired during learning may result in stress if the expectancy is not met (e.g., a student who expects to get a high grade on a midterm test but does not get it might get stressed for the final exam). The stress response occurs when there is a discrepancy between what is expected (“set value”) and what really happens (“actual value”). This response elicits specific behavior to cope with the situation (Eriksen et al., 2005). “Coping is defined as positive response outcome expectancies” (Ursin, 2009, p. 641), in which the person expects to be able to handle the situation with a positive result (e.g., a student who knows from previous experiences that studying hard a lot will result in good grades). It is not the stressor or strategy per se the individual uses to deal with things that matters; what matters for coping is the individual’s belief that he or she can handle the stimulus. In CATS, coping is regarded as a cognitive process, and a process that occurs at an earlier stage in the theory than it does in the TTS and CMRTE. A person’s belief that he or she can cope with the stimulus happens before any stress response occurs (Ursin & Eriksen 2004).

According to the CATS, it is essential for the prediction of health and disease that coping is defined as positive outcome expectancy. Whether the stimulus is pleasant or

threatening will depend on the individual's evaluation of the situation. The individual evaluate the situation as pleasant or threatening based on previous experiences and expectations for the outcome. If the individual evaluates the situation as manageable, lower levels of arousal will occur. If the stress response is sustained, and the individual evaluates the situation as unmanageable—that is, if the individual does not believe he or she possesses the skills necessary to cope with the situation—only then might the stress response lead to illness and disease through established pathophysiological processes. This is what McEwen and Stellar (1993) refer to as “allostatic load.” The problem with the concept of “allostatic load” is that it does not explain why repeated exposure to stimuli does not always seem to result in sustained stress responses.

The CATS explains why stress stimuli affect people differently, why one stimulus can result in illness and disease in some people and not even seem to affect other people. Ursin (2014) pointed out that humans (and animals) learn how to cope with stimuli. Once a person feels he or she can deal with the situation, the stress response is reduced (Ursin, 2014). Humans adapt and learn from previous expectancies, and therefore acquire coping skills to handle certain stimuli. The stress stimuli are not producing a stress response anymore, or at least as much of a response as when it was first presented to the individual. Last but not least, by drawing on concepts from learning theory, CATS explains why stress in many cases will turn out positive. For instance, by being required to repeatedly do presentations in front of the class, many students will eventually learn how to deal with the stress that comes with public speaking and end up feeling less stressed and deliver better presentations.

In summarizing the theoretical frameworks, according to the TTS, when there is an imbalance between the demands placed upon the individual and the individual's ability and/or willingness to cope with it, stress results. According to the CMRTE, emotions and stress stand side by side, and whenever stress occurs emotions emerge as well. CATS suggests that the



stress response occurs when there is a discrepancy between what is expected and what really happens and learning from past experiences has a key role in what one expects when evaluating a stress stimulus.

The distinct features of these three frameworks can be summarized as follows: CATS explains the different stages of stress both separately and in relation to each other, which the TTS and CMRTE do not address. With CATS one can look at the stimulus and the stress response separately but also in relation to each other. The CATS gives the opportunity to look at how individual factors, external factors, and expected outcomes influence the perceived stimulus and stress response. The TTS and CMRTE propose that a stressor is best understood as a rather simplistic transactional relationship between the individual and the environment, something that is not considered as important in the CATS for which the coping process comes into play before any stress response can occur. Considering CATS' position that it is not the stressor or strategy per se that matter but one's belief that the stimulus can be handled, and its reference on one's learning of expectancies, the CATS was chosen as the theoretical framework for this study. CATS allows the learning and re-learning of stress stimuli and experiences as well as coping expectancies to occur, which enrich one's possibilities for managing stress. Table 1 (see Appendix G) presents the key features of the TTS, CMRTE, and CATS.

### **Chapter 3**

#### **Methodology**

This study aimed to explore the different causes for why female IBDP students experience stress, how they experience it, and the different coping strategies they use to handle the perceived stress. The researcher chose a qualitative phenomenological research design and collected data via semi-structured interviews. The constructivist worldview, the ontological position relativist and the epistemological position subjectivist guided her methodological decisions. The research design determines the worldview the research is based upon and the specific methods that are used in the research (Creswell, 2014). Specifically, this thesis chose to follow a constructivist worldview. It is common to approach the research design by choosing between one of three classifications: qualitative (framed by words and/or open ended questions), quantitative (framed by numbers and/or closed-ended questions), and mixed methods (combination of the qualitative and quantitative approach) (Creswell, 2014).

#### **Philosophical Worldview**

Creswell (2014) describes worldview as “a general philosophical orientation about the world and the nature of research that a researcher brings to a study” (p. 6). A worldview can be understood as basic beliefs that lead to action (Creswell, 2014). Even if the worldview is hidden in the study, it influences the study, and therefore it is helpful for both the researcher and the reader to elaborate on the chosen worldview.

The existing research on stress and young female students in Norway as well as stress and adolescents in IBDP most commonly followed the post-positivistic worldview (which commonly informs qualitative research). However, the present study employed a qualitative research methodology as the researcher recognized a gap and need to follow the constructivist approach to study in depth the phenomenon of what stresses female IBDP students in

Norway. This approach allowed her to co-construct with the participants the experience about feeling stressed as female students enrolled in the IBDP.

Constructivism is the worldview that commonly informs qualitative research and seeks to understand the world we humans live in (Creswell, 2014). Individuals experience various phenomena and construct some subjective meaning from these experiences. How a phenomenon is experienced will vary between individuals. The constructivist researcher thinks that the world is made up of multiple meanings about the same phenomenon (Creswell, 2014). Hence the constructivist seeks to understand the complexity of views rather than specific experiences and narrowed-down meanings. In constructivism, no such thing as “cause and effect” exists, and only by manipulation can we talk about “cause an effect” (Patton, 2015). The data collected by a constructivist researcher aims to reveal individuals’ views, meanings, and experiences about what is being studied. Researchers tend to use open-ended questions to get the participants to share their view(s) on the matter. Constructivism is based upon the assumption that humans construct their own views and meanings about the world based on their experiences and social perspectives (Creswell, 2014).

Furthermore, the interpretations about what the participants shared with the researcher are also shaped by the researcher’s own experiences and background. In constructivism, the “truth” is a matter of agreement among sophisticated constructors and does not correspond with objective reality (Patton, 2015). The “truth” sought in this study was the female IBDP students’ (sophisticated constructors) shared subjective meanings about what causes them to feel stressed.

### **Epistemology and Ontology**

The worldview that guides a researcher influences his or her choice of research methods (Creswell, 2014). The researcher here chose constructivism as her worldview, which had implications for the epistemological and ontological ideas that informed the study

(Patton, 2015). Ontology is concerned with how things really are; in other words, it is the study of existence (Thornquist, 2003). There are two positions in ontology: realism and relativism. The researcher in this study held a relativistic view. A relativist believes that a phenomenon and its meaning are constructed by social factors and are always in a process of revision, and this is often the view held by the constructionists (Bryman, 2012). This thesis chose to follow CATS as it's theoretical framework, and the CATS explains how stress changes for individuals, i.e., how past experiences (learning) and social and environmental factor changes the level of arousal for stimuli, and shapes the experience of stress and how stimuli are coped with.

Epistemology is concerned with how we know what we know and is also referred to as the science of knowledge (Thornquist, 2003). We find two positions in the literature for epistemology: objectivism and subjectivism. Subjectivism was chosen as the epistemological view in this study, because the researcher believed that interviewing the female students about stress would be the best way to obtain the information she needed to answer the research questions. The constructivist worldview usually chooses subjectivism as its position. Subjectivism holds that the study of a phenomenon is relative and highly dependent on human understanding, beliefs, and behaviors within their contexts (Thornquist, 2003).

### **Research Design: Phenomenological**

When one is conducting a qualitative research, there are many research designs to choose from (e.g., phenomenological research, ethnography) (Bryman, 2012). To answer the present study's research questions, it was essential to study the phenomenon of stress as experienced by Norwegian IBDP female students. "Phenomenological research is a design of inquiry coming from philosophy and psychology in which the researcher describes the lived experiences of individuals about a phenomenon as described by participants" (Creswell, 2014, p. 14), thus it was chosen as the most fitting approach.

Phenomenology is particularly interested in questions related to how individuals describe things, experience them, and make sense of the world they are in (Bryman, 2012). In the case of the present study the researcher was particularly interested in how the female IBDP students made sense of what made them feel stressed, how in particular they experienced stress, and how they dealt with stress. The researcher's subjectivist epistemology also justifies why phenomenology was chosen as the research design. Furthermore, the ontological view held by the researcher supports the use of a phenomenological research design. In phenomenology, "reality" is multiple and socially constructed through human interaction. (Bowling, 2014). Biggam (2015) suggests that a phenomenological research attempts to describe events, but also to explain why, and this approach guided the present study.

### **Procedure**

The first step was to contact a director at an IBDP in Norway. The contact was made through the supervisor of the researcher. Both the supervisor and the researcher had a face-to-face meeting (October 2016) with the director of an IBDP in Norway nearby the institution where the researcher was enrolled as a student in the master programme in Public Health. The IBDP director welcome the study and requested detailed information in writing before making a final decision. Communication between the IBDP director and the researcher was via email, phone, and face-to-face meetings. Upon final approval by the director, the researcher received the contact information for the school nurse, whom she initially contacted by email and phone. The nurse was informed about the study and agreed to support a participant in need to talk about feelings or thoughts that might emerge during/after the study.

Three pilot interviews were conducted in November and December 2016. A former female IB student and two female Norwegian system students attending high school were interviewed to test the interview guide and for the researcher to gain some experience with

interviewing. The pilot interviews are discussed further down.

Seven female students attending IBDP1 (all born in 1999) attended the presentation of the study at the targeted school. A second presentation in the IBDP2 class was held and three female IBDP2 students (all born in 1998) attended. An email was sent to these students and six of them agreed to an interview. All interviews were conducted within ten days after the presentations. A month later, a second invitation was sent to the students who had declined for lack of time at the first invitation and one more student accepted at this time to be interviewed.

The interviews were transcribed and then emailed to the interviewees, who were asked to read through their transcription. They were asked to comment, change, and finally confirm that their transcription accurately reflected their experience. One student decided to delete a small part of her interview that she did not believe was relevant to the study. The deleted part did not influence the information. No other participant added or changed anything. All interviewees confirmed that their transcription accurately reflected their experiences.

### **Pilot Interviews**

Pilot testing is an important step where the researcher gets to test the research instrument(s) will be used in the study (Bryman, 2012). In this study, three pilot interviews were conducted.

The first pilot interview, which was conducted via Skype, was with a former international female IBDP student. The interview was audio-recorded and after the audio recorder was turned off, the interviewee gave helpful feedback about the interview guide. The interview was transcribed and necessary changes to the interview guide were made. All but one question about the difference between IB and other high school programs were deleted as not fitting well with the purpose of the study. By listening to the audio recordings, the researcher became fully aware of the feedback she gave to the interviewee and how she

articulated the questions. Some of the questions were expressed in a leading way, which had to change in future interviews. For this reason, it was important that the researcher conducted more than one pilot interview.

Two more pilot interviews were conducted with two female high school students. The interviews were again audio-recorded and then transcribed. The interview guide was again reviewed one more time and one more question was removed. The question asked about the difference between male students and female students in relation to stress thus removed as it was not in the scope of the study. Some of the questions were rephrased for clarity. Another reason the researcher did three pilot interviews was that she got to know the interview guide “inside and out” and became more skilled and confident in conducting interviews.

### **Interview Guide**

“An interview guide lists the questions or issues that are to be explored in the course of an interview” (Patton, 2015, p. 439). In-depth semi-structured interviews were chosen as the data collection method. It is common to develop an interview guide when conducting qualitative research interviews (Bryman, 2012) as it guides the interview, contains thoroughly developed questions and a list of the topics to be covered. The questions in the semi-structured interview guide were open-ended and guided to topics that needed to be covered (Kvale & Brinkmann, 2015).

Bryman (2012) suggests using several different strategies when developing an interview guide. In this study three different strategies were used: discussions with peer students, looking at interview guides from related research, and identifying gaps in findings from related literature. A study conducted in the US by Suldo et al. (2008a) used focus group interviews to investigate coping styles and the relation between coping styles and psychopathology (levels of anxiety). The researcher in that study was contacted and asked if she would share the interview guide, and she did, and her interview protocol was used in this

study. It was especially helpful when it came to formulation some of the questions about stress. For example, her question, ‘What is the first thing that pops into your head when I say the word stress?’ was a question all the students in this present study responded to well, and it elicited important information.

### **Sampling Strategy and Participants**

Purposive sampling is the most common way of sampling participants in qualitative research. Denovan and Macaskill (2013) used purposive sampling to sample undergraduate students for semi-structured interviews. They performed a phenomenological analysis on stress and coping in first year undergraduates. Because phenomenology is concerned with human experience, it is essential to sample individuals who have adequate experience with the topic of interest (Bryman, 2012). Purposeful sampling was used in this study because it was the best way of sampling participants who had information to share about their experience with stress.

The director of an IBDP briefly informed all the female students in an IBDP1 class and an IBDP2 class in Norway about the study and invited them to meet the researcher for more information. Only female students were asked to meet for a brief introduction to the study, because the study specifically aimed to understand the female students’ views off the matter. A presentation informing the female students from the IBDP1 class about the study was conducted in January 2017 (seven attended out of twelve invited). Twelve days later, a second presentation was conducted with the female students from the IBDP2 class (three attended out of eight invited). At the end of both presentations, seven students from the first presentation and three students from the second were asked to answer a brief introductory questionnaire. The students were informed about the purpose of this introductory questionnaire and were told it was voluntarily to answer or not. The students that chose to answer the questionnaire consented to take part in an interview.



Kvale and Brinkmann (2015) points out that time and resources also impact the decision about how many interviews a researcher will be conduct in a study. Too few participants might give too little information about the phenomenon; on the other hand, in-depth understanding might suffer when including too many participants (Bryman, 2012). There is no gold standard as to how many interviews should be conducted in qualitative research (Kvale & Brinkmann, 2015). Taking in consideration the time frame, the study design, and the aim of this study, 10 female students from an IBDP in Norway who fitted the criteria were invited to an interview, and seven of the students went through with an interview.

**Criteria and introductory questionnaire.** The introductory questionnaire (Appendix C) collected demographic information about the students and whether the students felt stressed or not. The students were selected based on four inclusion criteria: (i) the participant was a female, (ii) she reported feeling stressed, (iii) she was an IBDP student, and (iv) she was aged between 16 and 19 years of age. Chroni, Abrahamsen, and Hemmestad (2016) also used self-reported levels of stress to select their participants (in a study exploring stress in national team coaches). Likewise in this study, female students who reported in the brief questionnaire experiencing a lot of stress were purposefully invited to an interview.

### **Interviews**

Semi-structured interviewing was used to collect the knowledge in this study. The interviewee shared the in-depth knowledge that was of interest and this knowledge was obtained through questions that were specifically designed for the purpose of the study (Bryman, 2012). The qualitative research interview is concerned with understanding the world through the eyes of an interviewee (Kvale & Brinkmann, 2015). Interviewing individuals is a typical way of collecting information about the phenomenon when following the phenomenological research design (Bryman, 2012).

Whenever the interviewer needed more in-depth information or explanations during the interview, she diverged from the interview guide and asked follow up questions . This is the advantage with semi-structured interviews. To some degree the interviews were structured, but left room for further questioning (Bryman, 2012). An in-depth understanding of the phenomenon was dependent on the information obtained through the interviews, and therefore it was very important that the interviewer explored in depth stress and coping matters.

The interviews were conducted at the school the students were attending. The school was chosen as the location because it was a place familiar to the participants. The choice of the location aimed to make them feel more relaxed to talk freely. To ensure that the students were not identified as a participant, most of the interviews were conducted after school. At that time, the school is quieter than during the day, which helped to minimize distractions and contributed to the quality of the audio-recording (Bryman, 2012). However, two of the interviews were conducted during school hours as it suited the students schedule. One of the interviews that took place during school hours was lightly disturbed but not enough to affect the quality of the interview or the audio recording.

### **Analysis of Data**

There are multiple approaches to analyzing qualitative data (Bryman, 2012). All of the approaches seek to understand and interpret the collected data. The qualitative research approaches assumes that people make sense of the world they live in, and that these interpretations of their own worlds will then vary from person to person (Bryman, 2012). This study chose to use guidelines from thematic analysis (Braun & Clarke, 2006) to interpret and understand the collected information. Braun and Clarke (2006) stated that “qualitative approaches are incredibly diverse, complex and nuanced, and thematic analysis should be seen as a foundational method for qualitative analysis” (p. 78). Thematic analysis is related to

phenomenology as it focuses on the human experience subjectively (Guest, MacQueen, & Namey, 2012). Thematic analysis is a rather basic form of doing qualitative analysis. This is another reason why thematic analysis was chosen for this study, as the researcher had little prior experience with qualitative analysis.

Thematic analysis is a widely used analysis method in qualitative research and it seeks to identify patterns and themes within the collected data (Braun & Clarke, 2006). One of the advantages with thematic analysis is its flexibility. It does not rely on a theoretical framework, which gives it the opportunity to provide rich and detailed, yet complex, data. Braun and Clarke (2006) do not think there is an ideal theoretical framework when conducting qualitative research. What is important is that the theoretical framework that is chosen for a study matches what the researcher aims to learn.

**Approach and guidelines for the analytic decisions.** The transcribed material was analyzed using Braun and Clarke's (2006) guidelines to thematic analysis. Before conducting thematic analysis, certain decisions needed to be made, and it was important to be true to these decisions throughout the analysis (Braun & Clarke, 2006). The researcher held the view that the phenomenon of stress is shaped by the environment and is socially produced, and thus chose the constructionist paradigm as more suitable to inform the analysis. Within the constructionist paradigm "meaning and experience are socially produced and reproduced, rather than inhering individuals. Therefore, thematic analysis conducted within a constructionist framework cannot and does not seek to focus on motivation or individual psychologies" (Braun & Clarke, 2006, p. 84). Furthermore, this particular study conducted face-to-face semi-structured interviews, a consideration that made the constructionist paradigm the most suitable to guide the analysis.

The second choice to make was which type of thematic analysis would be most suitable for the purpose of the study. The researcher had three specific aims to explore, and

decided to compile a detailed account of particular aspects of the data set (Braun & Clarke, 2006). A detailed account of one particular aspect of the data set is commonly linked to the research questions or to a particular “latent” theme across the whole data set. The limitation of this approach is that patterns and shared meanings across the whole data set and other valuable information related to the aims of the study might get lost (Braun & Clarke, 2006).

The themes in the data set were identified using an inductive (“bottom up”) approach (Braun & Clarke, 2006). Data was collected specifically for the study. The themes were strongly linked to the data itself and not driven by the researcher’s interest in the topic. The researcher that performed the analysis did not try to fit the data into a pre-existing theoretical framework (Braun & Clarke, 2006).

A fourth decision to make when doing thematic analysis is at which level the themes are to be identified. The analysis was identified at a latent level (Braun & Clarke). Analysis at the latent level is usually performed within the constructivist paradigm. The analysis at the latent level aimed to identify underlying meanings, ideas, and themes that shaped the semantic content of the data (Braun & Clarke, 2006).

**Procedure of analysis.** Step-by-step guidelines from Braun and Clarke (2006) were followed when analyzing the collected data. The first phase was to get familiar with the data that was collected through the interviews. The same researcher that planned the study also did the data collection, the transcribing, and the analysis. By listening through the audio-recorded material several times, and reading through the transcribed material repeatedly, the analyst was familiar with the data, and knew the depth and breadth of it. This was important for later phases in the analysis (Braun & Clarke, 2006). A list of initial ideas and their possible implications were written down in the end of this phase.

The second phase was to develop initial codes from the data (Braun & Clarke, 2006). The coding organized the data into small meaningful groups, which differed from the themes

that were developed in later phases. The data were coded with the specific research question in mind. The analyst performed the second phase by using the notes and ideas from the first phase. She used different colors to systemize the data in a Word document. Each of the transcribed interviews was thoroughly searched several times, to find all of the possible codes.

Broader preliminary themes were identified in the third phase. All codes that were identified in the second stage were sorted into potential themes and this was the start of considering where the codes may combine and form themes (Braun & Clarke, 2006). Relations between the themes and codes started to emerge in this phase, and the significance of each of the themes started to show. Thematic maps (Appendices H-K) were used as a tool to get an overview find relations between the codes and themes. These maps were refined several times during the analysis.

The next phase was to refine the themes that were developed during the third phase. During the fourth phase, it became clear that some of the themes were not themes. They simply did not have enough data to support them or they collapsed into other themes (Braun & Clarke, 2006). Both internal homogeneity and external homogeneity were considered in this phase. It was important that each of the themes had common content meaning, and that it was easy to identify the difference between each of the themes. This phase consisted of two stages: reviewing at the level of coded data extracts, and reworking preliminary themes. In the first stage, all of the extracted codes within each theme were reviewed and checked as to whether they made sense and formed a coherent pattern. In the second stage, the validity of each of the themes in relation to the data set was considered, and also considered was whether the meaning of the themes in the data set reflected the evident meanings of the whole data set (Braun & Clarke, 2006).

Defining and naming themes took place in the fifth phase, in which the analyst refined

and defined the themes further. The essence of each theme was identified, as were the overall meanings of all of the themes. For each of the theme, a detailed analysis was conducted.

Additionally, the essence of each theme was considered, in relation to the overall meaning and story of the whole data set. At the end of this phase each of the themes was given a name (Braun & Clarke, 2006).

The final phase of the analysis was to produce the report. The previous phases resulted in clearly worked-out themes, and the last phase was to write the findings chapter of this thesis (Braun & Clarke, 2006). The aim of this phase was to tell a complex, coherent, and understandable story about the findings from the data set. Examples were carefully chosen to capture each point that was made.

### **Trustworthiness**

Lincoln and Guba (1985) suggest four constructivist criteria for establishing trustworthiness in research: credibility, transferability, dependability, and confirmability. “Credibility addresses the issue of the inquirer providing assurance of the fit between respondents’ view of their life ways and the inquirer’s reconstruction and representation of the same” (Lincoln & Guba, 1985, referred in Patton, 2015, p. 685). The credibility was ensured in this project by performing a member-check of the transcribed materials and a peer debriefing. Each of the interviewed students received their transcribed interview and was asked to verify the transcription and/or perform the necessary changes (Lincoln & Guba, 1985). This is what member-check refers to. The peer debriefing was performed by a fellow master student who went through the analysis and gave feedback.

Transferability means the applicability of the findings. Applicability deals with “how can one determine the degree to which the findings of a particular inquiry may have applicability in other contexts or with other subjects (respondents)?” (Guba, 1981, p. 79-80). It is the researcher responsibility to ensure the research process was logic and well

documented. The method section of the thesis was written detailed, to ensure that the study could be repeated later (Guba, 1981). Purposeful sampling was also a way of ensuring the transferability in this study (Guba, 1981). The phenomenon of what causes stress in female IBDP students, how stress is experienced and the different coping strategies that the female IBDP students used to handle stress can only be understood in the given context and cannot be generalized to others (Patton, 2015).

Confirmability is concerned “with establishing the fact that the interpretations of an inquiry were not merely figments of the inquirer’s imagination” (Lincoln & Guba, 1985, referred in Patton, 2015, p. 685). The findings of the study should therefore be a reflection of the participants’ experiences and not the researcher’s interpretations and preferences. It is essential that researcher bias be reduced. This study used semi-structured interviews to collect the data that was transcribed and analyzed. Both the pilot interviews and the interviews for the analysis were audio recorded. Audio recording is a method that helps provide for confirmability. During all of the processes in the study, the researcher was aware of her knowledge and her assumptions. The researcher attempted to lay aside her own presumptions, and instead she was open to learn from the participants, and to be open to hear from and learn from the participants, and not draw any hasty conclusions.

### **Ethical Considerations**

First and foremost, it was important that the Norwegian Center for Research Data (NSD) approve the study. The study was approved by the NSD on December 19, 2016. No data were collected and no arrangements with a school were made before the study was approved. Ethical guidelines from NSD were followed. NSD pointed out that the students had the right to withdraw even after the consent letter was signed, and this was pointed out to the students during the presentation of the project and before the interviews were conducted.

Permission from the Director of the IBDP was obtained before any data were

collected. The director of the IBDP was informed about the study in details, knew who the participants were, and well as when and where the interviews were taking place. Therefore, he signed a confidentiality declaration, necessary because he might be in a position to connect the findings to the participants. Additional to obtaining a signed confidentiality declaration from the IBDP director, the school nurse also signed one. She was informed about the study and agreed to be available for the participants if they needed to talk to someone during it.

Participating in the study was voluntary, and the students were informed of the right to withdraw from the study at any time, without giving any explanation. The voluntarily nature of the study was emphasized to the students several times during the presentation, and again before the interview, and once again in the e-mail that invited them to do an interview. All participants were given a short version of the project description and a consent letter which they signed (Oliver, 2010). The participants were also given a copy of the consent letter they signed. Adolescents between 16 and 18 years of age can consent to their participation, without parent consent, if the study is not collecting sensitive health information. NSD was contacted about this matter (personal communication, 20/09/2016), and it was concluded that the data collected in the study would not fall in the category of sensitive health information.

The consent letter contained information about what would happen to the information the students shared. Each of the participants was given a code (e.g., G1, G2 ... G7) and a pseudonym. The information about what code identified which participants was stored in a separate password-protected document on a password-protected computer. The researcher was the only one who knew the password to the documents and the computer. Only she could link the codes to the right participant, and she was the only one who had access to personal information and that was collected via the sampling questionnaire. Upon completion of the study, all collected data and information about the participants will be deleted: Sampling questionnaires, transcriptions, notes that reveal personal information, audio recordings, and



other material that contained personal information about the participants will be deleted by July 2017.

All information and communication with the participants were in English. This was not a problem since all communication and written work in the IBDP are in English. The participants were aware that the interviews would be conducted in English, but were also given the chance to explain in Norwegian if needed. Two audio recorders were used to record the interviews. All the participants knew the purpose of the audio recorders and everyone consented to the use of them (Oliver, 2010). The audio-recorded files were transferred to the password-protected computer soon after the interview and then deleted from the recorders. Only the researcher in this study had access to the audio recordings. They were stored on the password-protected computer.

## **Chapter 4**

### **Findings**

This chapter presents the findings from interviews with seven female students from IBDP. Five of the participants attended IB1 and two of the participants attended IB2. The findings are organized in three sections. The first section addresses what stresses the female IBDP students, and the second one addresses how they experience it. These sections are vital for understanding how the female IBDP students cope with stress, which is addressed in the last section. To protect the students from being recognized all names used in this chapter are pseudonyms.

#### **What Stresses the Norwegian IBDP Female Students**

One of the purpose of this study was to explore the different reasons female IBDP students experience stress. In CATS “causes to stress are equivalent to “stress stimuli”. The brain evaluates whether the presented stimulus results in a stress response (Ursin & Eriksen, 2004). This evaluation is based on previous experience and expectations of outcome (Ursin & Eriksen, 2004). In other words, some stimuli will result in a stress response for some individuals, and for other individuals no stress response will be triggered. This is the overarching theme that was found in relation to the different stimuli that were shared during the interviews. The overarching theme includes three lower-order themes: “academic stressors”, “constant efforts to balance time and demands” and “non-academic stressors.” An overview of the overarching themes, lower-order themes, and codes is shown in Table 2 (see Appendix H). It was a consensus amongst the students that school was the major area of life where they experienced stress. Stress in relation to school is addressed first and other reasons for stress are then presented. Each lower-order theme is presented below with its subthemes and illustrated by raw data quotes that help us answer the main research question of the study.

**Academic stressors.** Stressors related to school was the discussed most frequently amongst the students. All of the female students did express some concern related to failure: “Stress would probably just be this this dreaded feeling that ‘Oh, gosh not again, I am going to fail!’” (Mia). The fear of failing was highlighted by four of the students as something that caused a lot of stress for them. Another student said “I am stressing because I am afraid I won’t be good enough for something and then I get sad because I think I won’t be good enough for something” (Sina), and she explained how being afraid of not being good enough or doing well enough at school was one of the major reasons for why she experienced stress. Sina also said that “Not understanding a task, that is when I am stressing the most,” which can also be related to the feeling of not being good enough.

Some of the students highlighted the grading system in IB as a source of stress while others found it a positive thing in relation to stress. The students are graded on the extended essay, the internal assessments, and exams. These grades count towards their final diploma. Tests and other work during the two years do not count on the final grade, but only gives an idea of how they are doing. Ivy explained the importance of the big things, because if you fail on them you fail the IBDP: “We have this extended essay, and internal assessments, and exams in the end of IB. So they are the only things that counts for the grade, everything we do now, don’t count. And I think that’s, that’s stressing itself, because everything your grade counts on is the big things, because you can’t fail on them. Because then you fail the program.” (Ivy)

Mia talked about how grades were a major source of stress in her life, and she related this stress to her ambitions and future plans:

I see the face of my English teacher. [Laughs]. But emm, no it’s just because she talks about the exams the most and what we are going to do in the future to prepare for those. And that is going to help me a lot, but at the same time, I feel like, I don’t want to do it.

Because it is just, it is going to be very difficult, the exams. And I really want to get a great score, so I can go to a good college. [small pause] And I don't know if I'm going to achieve that. Everyone around me thinks I'm going to achieve that, so I'm going to try, but I hope I'm able to.

Two of the students talked about how other students stressed them out. Nina explained how one of her friends was very talented and that drove her to work harder, but also to be more stressed:

She's very talented and I think [small pause] cause she's [small pause] she excels things in a way I don't think that I do, so [small pause] I think that's also a stressor for me ... you know my best friend is someone way more talented than I am. You know being put up next to her, even though I'm pretty sure I'm being the only one doing that [small pause] without her actually doing it. Her presence sort of just pushes me to be better, but also probably stress myself a little bit more just because I want to be that next level of talented.

Two out of seven of the students talked about how short notice on homework and deadlines would stress them, Holly said: "Short notice of a deadline, of course that's a thing that makes me stressed ... sometimes when it's not good planned then that's a thing that stresses me more." When Mia was asked what she associated with stress, she immediately answered, "Probably deadlines." Sophie explained how deadlines made her so stressed that she was not able to meet them frequently:

If you end up like me sometimes, not meeting deadlines, that adds sort of to the pressure of [pause] doing well enough, because you know that you missed the deadline then I won't be able to meet this deadline, then you are sort of just laying behind the whole way. Which is sort of adding stress, and being stressed makes it hard to do things.

Because you are stressed about not doing them and then you end up not doing them

because you are stressed about doing them. So it's a cycle.

Five out of the seven students talked about expectations in relation to being stressed. They talked about how expectations from family, friends, peer students, the IBDP, and themselves created a lot of stress for them. Mia talked especially about how expectations from family made her very stressed. She reflected on how she experienced this pressure:

My family they're all like saying, "you can do anything you want to," but then they are also like "but you should go to a great college. And you can do anything you want to because you are going to go to a great college. And you are going to do all of this." And it, it's a bit of pressure; it's fine, for now. But I do feel that I need to stand up on a podium and do a lot of things. (Mia)

She also talked about how just being an IB student made her feel stress, and the fact that she is an IB student and doing well at school made her put high expectations on herself:

It's very stressful to be an IB student as well, because there is so much pressure on the inside of the IB system, and on the outside as well, because you are already a pretty good student. Everybody here has gotten pretty great grades. And we are [small pause] we all have expectations on us, because we are going IB. (Mia)

There was a lot of stress related to delivering good pieces of work to the teachers, whom the students respect and look up to, and because the students feel the teachers are expecting much from them. All of this raised the expectations even more for the students:

Ee have great teachers here. They are probably the best teachers I've ever had and, so you know you get this, you want to please them in a way, you wanna you know, you want to live up to their expectations. That's a thing that stresses me a lot. That I want to be good enough, to teachers' expectations as well, as my own. They raise my own expectations to myself. (Nina)

Not enjoying a subject or not expecting to "need" the subject later in life were

highlighted as important factors that led to more stress as compared to taking subjects that the students enjoyed. Emily said, “I had to have a natural science, and that kind of stressed me out, because I’m not really happy about that,” and Holly said, “At least what’s stressing me right now, isn’t the subjects that I like, but the subjects that I sort of have to have, but won’t have any use for, for example next year.” IB students choose some subject themselves, but are also required to take the two specific subjects, “Creativity, Activity and Service” (CAS) and “Theory of Knowledge” (TOK). The requirement to take CAS was an issue where the students had differing options: “It may well be a way of relaxing and a way that could stress us” (Holly). While some students got stressed by the subject and felt they could use that time on more important schoolwork, others found CAS important because they got to do something besides regular schoolwork.

**Constant efforts to balance time and demands.** There was a constant battle between getting schoolwork done and their leisure time. For some students, this conflict had been harder than for others. Sophie had to quit her swimming team, because she did not have time for organized sports. The schoolwork took too much of her time. Sophie also talked about a conflict she had between her family not understanding that she could have so much to do, and having so much to do. This conflict was a frequent stressor for her:

According to my brother and some of my relatives you can’t do homework for three hours every day, that’s not possible, you don’t have much to do, but at the same time I do. So, by sort of acknowledging that I have a lot to do that causes stress for me, because I feel like maybe I shouldn’t have so much to do. But I do so, [small pause] it’s sort of an, conflict inside of me in a way.

All the students talked about having too little time to do everything they were supposed to do, and this was a stressor for them. Some of the students did not feel very stressed by a lot of work that needed to be done, as long as they knew they would manage

doing everything in time:

When I feel like I have to short time to finish something huge. Or if I feel like I'm working too slow. Then I get stressed ... if I feel like I don't have enough time to do them that stress me out. But having a lot of things at once isn't necessarily stressful.

(Holly)

Others one got stressed by having a lot to do all at once. Emily illustrated how all the small things added up together to cause stress for her:

I feel more stressed when I have to do stuff with my friends, I have to do stuff to collect money for the bus, and then I have stuff due at school and maybe yea, it's all those things kind of together.

Three of the participants talked about how they cause some of the stress themselves. Not planning well enough, procrastinating, therefore being forced to do more work later were highlighted as three major ways they create stress for themselves. Ivy illustrates how she procrastinates on schoolwork:

I kind of cause the stress myself in school sometimes. I don't feel there is always the schools fault that I stress. Sometimes is my own ... because there is sometimes, where we have gotten these forty pages of reading on a Wednesday, due to Monday. And I don't always think until Monday, and then I get to Saturday, and I have to read all of those. And that is a stress I that is caused by myself. And not the school, because the school gave me a time ahead. And I waited. So I guess that's sometimes ... I kind of wait to do it, because I don't feel like I have to do it right now.

**Non-academic stressors.** Even though the majority of the stressors discussed were related to school, the female students also mentioned stressors that were not directly related to school. Nina explained that she experienced stress from all aspects of her life: “Obligations I think. Stress is homework, the expectation that you have to learn everything. And stress is [pause], is spare time activities. And it’s, [small pause] it’s life! Stress is the life.” Even though school was clearly stated by all of the students to be the main area in their life where they experienced the most stress, other areas in their life were also discussed. Nina mentioned how she experienced stress from all aspects of her life. Expectations and pressure related to being a teenager were described by Nina as “good girl pressure”:

But it is that “good girl pressure” I feel that, that is the huge part of the stress really. Cause it’s [small pause] you know you feel the pressure of having to do all these things ... You know there is this pressure to be healthy, but also eat all of the unhealthy food, cause that’s so cool. You know being this sort of laid back, while still doing everything. And I feel like that, that balance is sort of a thing that is [small pause] you know the most stressful. And you have to be perfect in every, every normal sense but also have like an extra thing that makes you just that extra amount of being cool, I guess.

Mia talked about how her friends always expected her to do great, and because they did not attend the IB, they did not understand this was putting her under a lot of pressure and created stress for her:

I have friends in another city ... which I try to meet every now and then. And that’s a little bit stressful every time I meet them, because I don’t go to the same school as them, and they always talk about what they are doing at school and I’m just like “IB!” And they think that I like this super smart kid who is going to rule the planet someday, because I go IB. But no, that is not going to happen.

Three of the students talked about getting stressed by others. Emily talked about how



she felt stressed when some of her family members, peer students, or close friends felt stressed. Being dependent on others was also discussed as something that could result in a stress reaction. Especially when others were the reason for her being late or being “pushed” to do activities she did not want to do.

Being very precise and organized was said to be stressful for one of the students, but this was more controlled type of stress:

I always find a way to be stressed as well. [Small pause] Cause you know when I have that down to the minute thing, I’m thinking “Oh I need to hurry up, cause I only have one minute left if this.” Which is sort of stress, but it more controlled. (Nina)

Nina discussed social media as a source of stress, but also as a way to channel the expectations. She explained how seeing her friends on social media (e.g., Instagram, Facebook, Snapchat) having fun and not being present made her feel stressed. She also talked about how one is expected to answer the moment one gets a picture. Having to be present at all times, and not getting a break from social media was also highlighted as a stimulus:

“You know seeing when other friends are having fun together and you are not there, and that’s a thing that has grown a lot out of social media. And you know, I get [small pause] I get stressed I guess when [small pause] cause it’s constantly there, there is no escaping this social media, cause it’s, cause you know, you are expected to answer a Snapchat three seconds after you got it and you are expected to like a picture, post a picture and [small pause] that [small pause] that’s stressful in a way. Having to be constantly present.”

### **How Stress is Experienced**

How the female IBDP students experienced perceived stress is addressed in this overarching theme. To understand coping it was important to explore how these female students experienced perceived stress. The brain filters all stimuli before any stress response

emerge. The brain evaluates whether the situation is experienced as expected or if there is a difference between what is expected to be normal and what the situation is. This theme is separated into three lower-order themes: “becoming aware of stress”, “feeling of stress” and “reaction to stress.” An overview of these overarching themes, lower-order themes, and codes is shown in Table 3 (see Appendix I).

**Becoming aware of stress.** The female students became aware of being stressed differently. Some of them had physical signs of being stressed, while others had more diffuse signs of being stressed. Sina became aware that she was stressed the moment she realized that she did not understand a task.

I think that the second [small pause] no the moment that I don’t understand something then I am realizing that I am stressing. Because... it is like “Oh! It is just one week until I have to deliver this... I don’t understand it.” ... Then I can stress, but [small pause] it is the moment I understand that I don’t understand.

All of the students had different ways of becoming aware of stress. Emily became aware of stress when her hands started to shake. Sophie explained how she experienced two types of stress: the panicky stress and the stress that gradually built up. She became aware of the two types of stress differently:

The panicky stress comes right away if I, because I have like an calendar where I have my homework, so if I open the calendar like nine p.m. and I see that I have something for the next day, then I notice it right away ... But then if, it’s a deadline that’s a week ahead, then I might start feeling the stress a bit on Monday and then more on Tuesday, and then more sort of throughout the week. And then on Friday I’m just feels almost like I’m dying because I just feel so bad all the time.

Six of the participants said they experienced a little stress all the time, and some days they experienced more stress than others: “I guess I feel a little stressed every day. But [small

pause] there is not so much stress some days, then others” (Ivy). Nina talked about how her stress levels had increased after she joined the IB. And Sophie said that her stress levels had increased even more in IB2:

It’s sort of more pressure because of the exams and stuff. I mean we finish all of our written assignments, which we will hand in before the winter break, which means that, I mean you’re done. You can’t do anything more, which adds more sort of pressure to you.

**The feeling of stress.** To describe how it feels to be stressed was one of the most difficult topics that the students were asked to do during the interview. Emily said: “I feel like stress is something, very general. You know, it’s hard to put words to stress.”

When Emily felt that she did not have enough time to finish something, she had a feeling she described as stress: “That you have that feeling inside that you have to finish something and you’re feeling that you cannot finish it.”

All of the students talked about stress in relation to having too little time to do everything they were supposed to do. The feeling they got when time was short and demands was high, was described as stress. The feeling of stress was also associated with the feeling of fear for the students, especially the fear of failure. The feeling of fear of failing can be related to how Sophie felt when she was not able to do what she was supposed to do, or when the females described how they felt when they had too little time to do something.

Four of the participants described the feeling of stress as tightness in their chest, Holly said: “It almost feels a little bit claustrophobic.” Sophie and Mia distinguished between “panicky stress” (acute stress reaction) and “build up stress” (little stress over a longer time). Sophie described how the two types of stress felt:

The panicky type of stress, where [small pause] the assignment is due in two hours and you have only like written two hundred words and you [small pause] your heart is

pounding like a mile a minute and you're feel like you are almost dying, because you just [small pause] you are thinking so fast, but at the same time you are not able to really think at all ... It's just sort of something tugging at your heart almost. Just like, pressing at you [small pause] like forcing you down and feeling bad about yourself. That's sort of one type of stress.

**Reaction to stress response.** Two of the students talked about feeling tense and getting headaches and migraines if they experienced a lot of stress: "I get really, really tense. And there are [small pause] maybe periods of time when my neck is so sore, cause I'm so tense." (Emily)

Being really tense and sore was for one student a sign that she was or had been under a lot of stress. Ivy explained how she would get bad headaches if she did not relieve some of the stress: "When I get stressed I get really bad headaches and migraines." Because Ivy had this reaction to too much stress she was unable to get anything done, which added to the stress: "When I get stressed, I can't do things, and I get more stressed out that I can't do those things." Three of the students talked about how they would not be able to do anything when they felt really stressed. Headache/migraine, being confused and not being able to "gather" their thoughts were said to be reasons for why they could not do anything.

Other participants talked about how they would start to cry and yell when they got too stressed. Emily said she would walk around mad at home when she was felt stressed. It did not help that the others in her family also got mad, because she was mad, and it was sort of a negative circle that did not help at all.

### **How the Female IBDP Students Coped with Stress**

One of the aims in this thesis was to identify the different coping strategies the students used to cope with the perceived stress. It was therefore important to explore how the students overall coped with the experienced stress. Five lower-order themes of coping

strategies were identified: “managing time and task,” “taking breaks,” “support from others,” “redirect thoughts,” and “perceived control.” Within the lower order themes, “managing time and task” and “support from others” ineffective strategies were also identified. Table 4 (Appendix J) shows the thematic map of the coping strategies. The findings from these five categories will be presented under “coping strategies” and at the end of the section some environmental factors that facilitated or debilitated coping are also presented. The ineffective coping strategies are presented after the effective coping strategies. Table 5 shows the thematic map of the different environmental factors that facilitated or debilitated coping (Appendix K).

**Effective coping strategies.** During the interviews, the students mentioned several coping strategies. Two of the students talked about how they would look at a difficult task they were supposed to do and then put it away for a while. After a while, they would start doing the task. In that way they got some distance from the task, and let the brain just deal with the difficult task, before they started doing it. Three other participants said they would take a break from the stressor by changing the location of their focus for a while: “Just do something else; just kind of make my mind forget about what I was stressed about.” (Emily). Sometimes they would take small breaks (e.g., go to the kitchen and get something to drink or read a bit), and other times they would have longer breaks:

I usually run. Just because I like doing things where my only task at that minute is that one thing. That really relieves stress for me... you know if I’m running in the forest I know that I can’t do homework in the forest, so I tell myself “I cannot do anything but run right here and now.” (Nina)

Several of the students talked about how they would do something active to get some rest from the stressor. Going for a walk or a hike, run, do strength training, and go swimming were the activities mentioned.

For Holly, one of the most important coping strategies she used was to remind herself that the stress would end. By having an app on the phone that counted down the days until the last exam, she reminded herself that the stress would not remain forever. Sophie also used to remind herself that the stress would end after the final exams. Emily thought of her friend who attended another IB school, and that he had said that there were bigger classes and more stress where he attended. She usually calmed down because she was thinking often to herself that others had it worse than she did. Holly used to write down everything she had to do on a board in her room, to get it out of her head. By reminding herself what she was stressed about, she sometimes came to realize that some of the things she was stressed about she did not need to stress about. She explained how stress would sometimes remain for a while after, and it was therefore important to see if she actually needed to be stressed. Several of the students kept a diary or a calendar, where they wrote down everything they had to do. By doing this, everything became more planned and clear. Cleaning was mentioned as a coping strategy by two of the students. Cleaning her dorm was the first thing Mia would do when she was really stressed.

Sophie, who had a problem with meeting deadlines, explained how getting an extension would be a way to cope with stress. She used extensions as a coping strategy, because she knew that the teachers would probably give her a little extra time to finish an assignment:

I get stressed and then I try to do the tasks and then I get an extension and then I do it. I don't know why I'm not able to do the tasks on time. Because when I get an extension, I'm not sort of stressed anymore. So I think I just sort of have a problem with deadlines. Because when I have the deadlines for this day, then I'm not able to do it, but when I get an extension for a couple of days instead of like this exact time, I'm able to it.

All of the students were very aware of the load of work they would have in IB before

they entered IB. They were prepared for the work and several of them mentioned how they just had to get it done to be able to feel less stress. Ivy, who struggled with bad headaches and migraines, mentioned how important sleep was for her. If she was tired and stressed, everything would just get worse, and therefore she prioritized to get enough sleep.

For several of the students seeking support was important not only in relation to coping with the perceived stress, but also as a way to keep some stress away. It was a consensus amongst the participants that having good friends was important for them in order to cope with everything they had going on in their lives. Nina talked about how her friends that did not attend to IB were a huge support because they acted as unbiased listeners. Emily illustrated how her best friend in the IB class was the reason why she did not end up being very stressed all the time:

My best friend in this class, she is [small pause] we have the exact same classes together. So, we know each other and stuff like that. And sometimes, we just sometimes call each other on the phone, making sure we don't have anything, made it clear what we have due this week and [small pause] stuff like that. So that we don't have to suddenly realize that we have something and get really stressed ... my best friend in this class really what really makes me from being super stressed.

Five of the students mentioned that their parents were important in relation to coping with stress. Being able to talk with them about their challenges (e.g., complain about their load of schoolwork they had or hearing from their parents that it was just temporary) or getting practical help (e.g., cooked food) were the two main ways parents were mentioned as important in relation to coping.

Honesty was mentioned to be important in relation to coping. Emily talked about how her dad and boyfriend always "sugarcoated" everything, and how this did not help her to cope: "I don't feel like they really help. I feel like they just kind of are sugarcoating it. And

they are making it seem a little better”. Her mom and friends who were honest, and did not try to make everything sound better than it was, were better at helping her cope with some of the stress:

I usually talk to my mom and she really helps. Cause she is a master student as well, so she is also a lot stressed. And we kind of talk about the stress together. She is more honest than just saying stuff that really isn't the way that it is, but should be. So she is kind of, she is just telling me how it is, and telling me it's okay to be stressed, but you have to think about other things ... But the friends that I have that are boys they actually know that [small pause] they are more honest as well. Cause they kind of don't have that filter, in a way. (Emily)

In the beginning of the IB1 Sina experienced how she managed to do a difficult task when she put the task away for a while. She said:

... in the beginning of the school year, when we had our first TOK hand in. I was so stressed, because I did not understand the task. And my teacher could not understand how I didn't understand. And I just sat down and [small pause] stared at the question. [small pause] I stared at it for like twenty minutes, and then I figured out that I am not going to be able to do this, so I just put it away. And then I didn't look at it for a day and then the next day I managed to do it like perfectly. So I think just putting it aside and then just calm down, leave it out for a minute and then go back and look at it. I think that works.

Ivy also talked about how she had learned to cope with presentations and talking in front of the class by doing it frequently. In the beginning of IB she felt a lot of stress when she was doing a presentation and talking in class. Half a year later she still felt stressed in these situations, but less so. She said: “I guess I have gotten better as I do it more ... I know afterwards that it went very well, but I still feel nervous and not comfortable doing it.”



Having “control” over a situation was often mentioned as a way to cope well with stress. Some of the students mentioned having more control over their life and over the stimuli that caused stress. This led to feeling less stressed by the same stimuli than they were before. As mentioned, Sina explained how her past experiences with a lot of stress and low control, led her to feel a lot of stress before she managed to get rid of the main stress stimuli in her life, and take control. Mia also talked about how having high control led her to keep her stress levels lower:

I feel like I have my life under a lot more control. I feel like I am able to control my actions. Part of it is because I live in a dorm, but I have [small pause] it feels a little bit odd to say this, but I have more responsibilities, which means that I have more control over everything. Which means that I’m able to figure out what makes me stressed and what doesn’t make me stressed and order all the stress things into areas where I can deal with it after or before I have to calm down. So then I can just like layer things so that nothing builds up, but everything just feels okay.

Nina talked about how she would plan her day down to the minute when she experienced a lot of stress. By planning her day, she would feel less stressed because she knew what she would do when. But Nina also said, “I only have one minute left of this, which is sort of stress, but it’s more controlled.”

**Ineffective coping strategies.** Negative response outcome expectancy, which also is referred to as “hopelessness”, is seen as the opposite of coping, therefore we can also refer to this as “not coping”. Two of the students mentioned how they had not coped with the stress in the beginning of the IBDP. Nina illustrated how she had a bad experience with her first test:

Probably the beginning of the school year. Just because I just had my first test, and I wasn’t very happy with the grade and stuff. And that really stressed me out. And everything just kept on rolling, and I didn’t know what to do about it, just because you

know [small pause] the IB was [small pause] was this all-surrounding mess that I had suddenly jumped into. So, I didn't handle that part very well.

Two students talked about how they did not know how to handle stress before they entered the IBDP: "I didn't [small pause] did not really understand how I was suppose to deal with it" (Mia). Crying, yelling and getting mad were their reactions to the stress response they did not know how to deal with.

Sophie talked about how she would compromise the quality of assignments so she would get them done in time: "I'm able to be very productive, because I know that I only have like two hour to do this, like, I only have to do it! But the results aren't so good usually." Compromising the quality of assignments because of the limitation of time or prioritizing other more important work was briefly mentioned by two of the other students.

**Environmental factors that facilitated or debilitated coping.** The students who are thinking about doing IB when they enter high school, can choose to do the Norwegian system first year or attend the pre-IB programme. Four out of the seven students attended the pre-IB programme while three had attended the Norwegian system during the first year of high school. All of the students who completed the pre-IB programme talked about how it had prepared their English, which helped them a lot when they started the IB1:

You are mostly prepared for the English part. And when you were prepared for the English part it made it easier, because then you are not afraid of asking questions in class and having presentations because you are used to it ... Probably because I was terrified of speaking English before I had pre-IB. So I think I would have been lot more quiet here and I would not dare to ask questions or speak in class.

Sina talked about how she was less stressed as an IB student than before IB. She lived with her family (family used to stress her a lot) and she was doing a lot of horseback riding every day. She did not want to do the horseback riding ever yday, and a result of this was that

she experienced a lot of stress in relation to having to go to the stables every day. When she quit the activity and moved away from her family during the week, she got rid of a big stressor in her life, which she did not have at the time of the interview:

I was angrier when I was stressed before. Because I never, [small pause] like now I can get rid of the stressor, I can control it, [small pause] but when I lived with my parents I could never get rid of it. Because it was standing in the stables.

When she did not have time to continue horseback riding, because she moved from home, she felt more control over her life, and this led to less stress.

Sophie described how she felt more stress in IB1 than in IB2. In IB1 they had bigger but fewer assignments, while in IB2 there were always assignments to do. She said that she had learned that by just working and getting them done, she would feel less stressed. Getting notice of a deadline a few weeks ahead was mentioned as important in relation for the students to be able to plan and therefore cope with the workload. If the teachers planned well (i.e., avoided overlapping with tests and assignments) it was easier to cope and easier for the students to do a good job on delivering a good piece of work.

Coping together as a class was a topic that also was mentioned by five of the students. The class environment made it easier to ask for help and work together on assignments with other students. Nina talked about how she in the beginning of the IB expected it to be more competitive, but quickly came to realize that everyone was experiencing the exact same things. Instead of competing against each other, they helped each other out:

I would have expected it to be more competitive than it is. I thought, [small pause] well it was in the beginning of the school year, I think it always is. But then we sort of find out that everyone is in the same boat, and so we just need to [small pause] need to cope with it together. Which is way much easier than having to compete with each other as well.

How the IB subjects were structured was said to be helpful, because they got to choose their own subjects and the level of the subject, and they had where smaller classes and the teaching style was similar to the university's teaching style. Because the students got to choose their own subject and study them for two years, they got to go in-depth in the subject, and this was mentioned as an important factor for enjoying and coping with stress. However, because the IBDP at their school just started a couple years before the interviews took place, they did not offer all the choices of subjects that other IBDP schools did. Two of the students said that they had to choose some subject they did not want to choose. The subjects they had to have, but they did not want to have, were the biggest source of stress for them. The subjects they enjoyed the most were not perceived as stressful (even though the workload was even heavier in some cases). Enjoying the subjects was mentioned a "shield" to stress.

## **Chapter 5**

### **Discussion and Conclusion**

The aim of this thesis was to explore what stresses female IBDP students, learn about how female IBDP students experience stress, and about the different coping strategies the students used. Stimuli related to school were reported as their major stressors, and the ones most frequently mentioned during the interviews. Stress related to being a teenager, social media, and family and friends were also mentioned, but were not discussed by the participants in the same length and depth that school-related stress was discussed. The students said they experienced a little stress all the time and heightened amounts at other times. Stress was especially experienced when the students felt they had limited time to get things done. Some of the participants did not know how to handle stress, and others had learned how to deal with it after spending some time in the IBDP. Enjoying what they were doing and having a general interest in school were discussed as key factors in minimizing stress and enabling them to manage the constant pressure to perform at top level. Crying, yelling, and getting mad were ineffective coping strategies that the students used when they did not know how to handle the situation. Sometimes the students had to compromise the quality of an assignment to get it done in time, which was identified as another ineffective coping strategy.

#### **What Stresses Female IBDP Students**

The interviewees agreed that school was the major area in their lives where they experienced stress and reported stress related to academic performance as the major stimuli. The findings of previous studies (Shaunessy-Dedrick et al., 2015; Suldo et al., 2009) agree with these findings. Academic performance was also in these earlier studies discussed as one of the main stimuli that caused school-related stress. The fear of not getting the right grades, of not being good enough, of not doing acceptable work, and of failing were mentioned as four major concerns that created stress for the female Norwegian IBDP students. The female

students in the study by Moksens et al. (2016) also reported that stimuli related to school were the main stimuli they perceived in regard to stress, together with peer pressure and home life. The students themselves said that they chose to focus on school because of their big ambitions, future plans, and because they liked to learn. The findings from this study regarding what stressed the female IBDP students are similar to what Shaunessy-Dedrick et al. (2015) found as stimuli for what stressed IBDP students in their study. There were some differences between the findings in this study and the results from the Shaunessy-Dedrick et al. (2015) study, but overall there were major similarities. For instance, the different stressors mentioned in the Shaunessy-Dedrick et al. (2015) study were make-up work due to absence, technology problems, difficult classes that exceed one's skill level, added responsibilities associated with extra-curricular activities, and parent-child conflict.

Girlguiding (2016) found that pursuing hobbies, "others interest," and peer support were important in relation to coping with stress. The IBDP female students were very clear that they enjoyed school, and some of them had school-related hobbies and interests. One can only speculate whether the students were so focused on school that they possibly did not recognize other stress stimuli in their lives, stimuli not related to school. A couple of the students did talk about stress in relation to being a teenager, but they still emphasized that their stress mainly came from school.

### **Expectations, Demands, and Pressure**

External pressure, demands, and expectations from several sources were also discussed as important reasons for why they experienced stress. The students mostly talked about pressure, demands, and expectations in relation to school, but a couple of students also mentioned this in relation to social media, social life, and home life. Wiklund et al. (2012) reported that three out of five students reported experiencing high pressure and demands in relation to school. One of the main findings from Girlguiding (2016) was that the young

females experienced a lot of pressure and demands from several sources. These findings show similarities to what the students talked about in relation to pressure, demands, and expectations in this present study. A constant feeling of being expected to achieve great results at school was a struggle for some of the students. Being expected to always respond to a message and be available was mentioned as well. In the Girlguiding (2016) study the young females said that these expectations, pressure, and demands came from everywhere. The female students in this present study agreed with the UK females' experiences. Parents, friends, the female students themselves, peer students, the IBDP, and society were identified as sources from which these expectations originated. It is interesting to note that some of the students felt that these expectations, pressures, and demands from society tended to raise the students' expectations to themselves. Others expressed that they already had high for themselves, and that they expectations did not do the schoolwork just to get it done, or just to finish IB, but to learn and get better for themselves.

One of the finding from this present study was that the students experienced stereotyping as a result of being IB students, and this caused some stress. Others automatically classified them as smart, as top performers in school, and as a group of adolescents with no life outside the classroom. Girlguiding (2016) also found that young females experienced being stereotyped—that is, being expected to perform or behave in a certain way—as a stress stimulus. They are expected to perform or behave a certain way. If there is a difference between how the students themselves wanted to behave, and how others expected the students to behave, these expectations do not fit into the reality. The female students explained how there might not be time to do organized sports, but there was time for activities and friends after the schoolwork was done.

### **The Experience of Stress**

The participants described the experience stress differently, but there was some

agreement as to what stress is and how it feels. The feeling of tightness in the chest was mentioned by almost all of the participants, when they described how they felt when they were stressed. What the students describe might be the general stress response to a stimulus (Ursin & Eriksen, 2004). The stress response is an arousal that affects most of the organs in the body, including an increased breathing and pulse. One will become aware that it is harder to breathe (similar to when one is doing light activity) and harder to take a full breath. Tiredness was a feeling that was mentioned as a result of stress that had lasted for a while. When the stress response is sustained over a longer period of time, the body might start to deplete energy (Sapolsky, 2004). The tiredness that was described might just be exactly what Sapolsky (2004) talks about. The inability to take action was mentioned as a reaction to sustained stress response. Not being able to think clearly and being physically stifled in regard to taking action might also be consequences of sustained stress response. One starts to feel the lack of surplus energy one needs in order to do what one is supposed to do. No one talked about being burned out over an expended period of time, but one student talked about how she was not able to do anything the summer break between IB1 and IB2, because she was so tired and stressed out. When she started IB2, she was again ready to work hard. It might be that the summer break was what she needed for her arousal levels to return to normal. This implies that having a longer break to get the arousal levels back to normal is important in relation to be able to handle the stress the students experience.

Headaches, migraine, being tense, sleep difficulties, and being in a bad mood (these are all self-reported “symptoms” of stress) were discussed as reactions to stress. Wiklund et al. (2012) also found that those who experienced a lot of stress reported more symptoms related to stress. Headache and being tense were the most frequently discussed reactions to a high arousal. When the students experienced these symptoms of stress, they usually had to take a break from everything so they could recover (lower the stress response); if not, their



symptoms would get more intense and last longer.

### **Expectancy**

All presented stimuli are filtered or evaluated by the brain before there emerges a stress response. Ursin & Eriksen (2004) formulated, that “All brains store the relations between stimuli, and between responses and stimuli. This stored (learned) information is referred to as expectancy” (p. 573). In other words, CATS supports that everything we have experienced in the past shapes how we filter stimuli, and therefore also how we cope. If one experiences that working hard before a test results in good grades, he/she learns that by working hard will eventually be rewarded. As such, the brain will filter this stimulus (the test) as something that one knows how to deal with, and no stress response will be triggered. The students in this present study also talked about how they experienced a lot of stress in the beginning of the IB, but when they learned how to deal with everything that was new, they did not experience as much of a stress response anymore. On the other hand, some of the participants had bad experiences from not having performed well in the past and they still experienced a lot of stress in relation to performance.

### **Coping**

In addition to avoidance of demands, active problem solving was one of the most common ways of handling stress in the Suldo et al. (2008a) study. The female students in this present study used strategies related to getting the work done to actively decrease the perceived stress. By getting sufficient sleep, planning and prioritizing to do schoolwork before other spare time activities, they avoided a lot of stress, and decreased high perceptions of stress.

Shaunessy-Dedrick et al. (2015) found that time and task management, seeking temporary diversions, and cognitive reappraisal were the three coping strategies that successful students most frequently mentioned. The students in this study also discussed these

coping strategies. Especially the female IB2 students talked about how they would deal with the stress because they knew they would complete the IBDP in a few months (i.e., the stress will end). Female IB1 students mentioned other strategies, but more in the direction of comparing themselves to others who experienced worse situations than them. Putting problems in perspective and focusing on positive aspects of a situation were two of the most frequently used cognitive reappraisal strategies used by the successful students (Shaunessy-Dedrick et al., 2015).

In this study, the students agreed that they managed to handle the IBDP by reminding themselves of the future benefit of completing the IBDP (i.e., getting into the university or college they wanted). This leads us to recognize that having a meaningful goal in the end, is an important coping strategy for handling the perceived stress during the proses of reaching the goal. Aer also see that being passionate about what one is doing (e.g., by following and prioritizing your dream) is beneficial for coping with perceived stress. Additionally, some students showed signs of a high SOC (e.g., students who know they are smart, know they only get top grades, know they can deal with stress when it gets too much, and do not think the curriculum is too difficult). Moksnes et al. (2014) found that the students that had a high SOC perceived lower levels of stress.

Turning to others (e.g., parents, friends, peer students) was a frequently mentioned coping strategy. It is important to have someone turn to, whether just to “vent” (express frustration) or to compare schoolwork. Successful students in the Shaunessy-Dedrick et al. (2015) study invested more frequently in close friendships than the struggling students. The successful students were also the ones who turned more often to teachers and older students.

Participants learned that by taking breaks it was easier to concentrate when they got back to the schoolwork. Breaks were also used as a strategy to lower arousal. Taking short and/or long breaks seems to be an effective coping strategy to minimizing academic stress

(Shaunessy-Dedrick et al., 2015). The students used breaks to regain energy, think more clearly, and think more positively about the schoolwork. However, in the present study taking breaks was also mentioned as an ineffective coping strategy if there was only a short time left to get something done. Taking a break when there was no time for one was actually perceived as to be a stimulus. Taking breaks was also mentioned as an ineffective coping strategy in the Shaunessy-Dedrick et al. (2015) study.

In the Shaunessy-Dedrick et al. (2015) study the successful students used effective time and task managements to cope with the stress related to academic struggles. In the present study the ones who struggled with managing their time had more problems keeping up with the workload. Which again lead them to be late on deadlines and to not achieve good grades in some subjects. Ineffective time and task management has been shown to lead to poorer performance at school and lack of sleep (Shaunessy-Dedrick et al., 2015). Prioritizing getting enough sleep was mentioned as an effective coping strategy in the present study. Shaunessy-Dedrick et al. (2015) agreed with the findings from this present study that compromising the quality of assignments, and getting emotional (e.g., crying and yelling) were viewed as ineffective coping strategies.

### **Strengths and Limitations of the Study**

The detailed information obtained through the interviews could not have been obtained with a quantitative research design, where most of the in-depth information would not have been collected. One can only get in-depth lived experiences about a phenomenon by asking questions to the right participants (Anderson, 2010). It was essential for this particular study to keep the scope of the research narrowed. It was important to make the study feasible within the timeframe yet to develop an in-depth understanding of the stress experience in IBDP female students. In-depth understanding of the participants' experience of stress, how they coped or did not coped with stress, and what they themselves experienced from the

different stimuli were all thoroughly explored and the researcher felt that she reached saturation when several same topics were brought up by the participants. As the researcher had a clear focus on the study's themes during the interviews, its specific aims were fulfilled. A limitation is that exploring certain related topics (e.g., her social life and how she experiences body image pressure) could have shed more light on stress and an even deeper understanding could have been obtained. As CATS explains, the subject of "stress" is complex (Ursin & Eriksen 2004) and therefore there will always be a chance that information will be lost because of the specific focus of a study with narrow aims.

A quantitative research design could not have gotten this rich information on the stress experience of young female students. In addition to this, the research design of the study made it possible to examine the complexities of stress, something that would not have been possible with a quantitative research design (Anderson, 2010). Since the female students selected the information they shared, therefore we cannot know whether they held back matters of importance. The strength of using a semi-structured interview guide was that the interviews had some sort of structure, where there were specific questions to be answered, but the interviewer had the freedom to ask further for more information if needed (Kvale & Brinkmann, 2015). Hence all matters important to students were explored but not all matters could be compared across the students considering this flexibility.

Another limitation of the study was the distribution of the IB1 students and IB2 students. Five IB1 students were interviewed, but only two IB2 students. Not all of the students were from the same year. In the findings, one may observe some variations in how the IB1 and IB2 students experienced stress, what stressed them (e.g., IB2 students were more stressed about college applications), level of perceived stress (IB1 students reported more stressed about the IB system), and how they coped it (e.g., the IB2 students talked about using cognitive reappraisal strategies more than the IB1 students did). No comparisons were made.

This was the first in-depth research of Norwegian female IBDP students' stressors, experiences, and coping.

IBDP students are very busy and use a lot of their free time doing homework, hence not many students had the time to be interviewed. All of the students who were interviewed did experience stress, but at varying levels. Some of the participants experienced little stress, while some of the participants experienced more stress. Most likely this can also influence the findings in this study. Even though some of the students reported experiencing lower levels of stress, they all had experience with stress.

The quality of the information collected during the interviews was mostly dependent on the interviewer. It was essential that the interviewer was familiar with earlier stress research, this particular study, and used interview skills that helped to elicit the right information. The interviewer in this study had some prior training in interviewing, but was not a highly skilled interviewer. This might have limited the information obtained from the participants. Nonetheless, the interviewer felt that she successfully accomplished the interview task considering the richness of information analyzed and reported in the findings.

There is always a possibility that the interviewee held back important and related information. The researcher did her best to make the interviewees feel comfortable and share their experiences. When one is asked to share personal information, he/she might hold back information viewed as too personal (Kvale & Brinkmann, 2015). The interview is not a medium that reflects the precise reality, but rather a selection of thoughts, interpreted experiences, meanings, and conclusions. The purpose of this study was to explore these experiences and let the interviewees put into words to what they perceived as stimuli, how they experienced stress, and how they coped.

The interviewer in this thesis was the one who brought forward these findings, hence the findings are to a certain extent biased by her who did the interviews, the analysis, and

selected the citations to use to support her work (Kvale & Brinkmann, 2015). This, illustrates the importance of the researcher's role during the whole research process. It was important that the researcher acted as unbiased as possible, but impossible to remain unbiased throughout the whole process, as this thesis is based upon human interaction, decisions, and experiences. The researcher made all methodological decisions on her own (and then discussed with the supervisor) and reflected on her high-school experiences extensively in order to separate her lived experience from those of her participants to safeguard her neutral position. The final limitation is that the findings from this particular study cannot be generalized (Bryman, 2012) and it stems from the research approach used. However, one may attempt to transfer the new knowledge to other IBDPs in Norway, outside Norway, as well as to other high achievement academic environments.

### **Implications for Public Health**

We do know that sustained stress response might lead to negative health consequences in the future. Research has shown that adolescents report stress-related symptoms more frequently and we have research evidence to believe that the adolescents who experience high levels of stress early in life will also experience high levels of stress and its consequences in adult life. To prevent the sustained stress response, one needs to shield the population with skills for handling stress. To give them these skills, it is essential to understand how stress is experienced and what stresses them. How can one cope with a stimulus without knowing what the stimulus is and how it is experienced?

The Ottawa Charter for Health Promotion is an international agreement that states five key action areas in health promotion: build healthy public policy, create supportive environments for health, strengthen community action for health, develop personal skills, and reorient health services (WHO, n.d., see Figure 2 in Appendix M. Developing personal skills is one of the key action areas that the Ottawa Charter suggests for promoting health. "Life

skills are abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life” (WHO, 1998, p. 15). In other words, it is essential to empower people to deal with the challenges (stimuli) that create stress. Public health professionals can advocate for the importance of giving people the training they need to acquire the set of effective coping skills needed to deal with stress. According to the CATS, some of this training should entail reflection over experiences, which will lead to learned positive outcome expectancies that in turn influence the filtering of the stimulus and prevent the stress alarm from being triggered.

The importance of social support and healthy environments was thoroughly discussed in this thesis. The female students highlighted the importance of a supportive environment and all of them discussed the importance of having someone to turn to. Whether these people were friends, parents, peer students, or teachers varied amongst the students. A healthy and supportive class environment was also a major help in coping with stress. In the Ottawa chart two of the key action areas are creating supportive environments for health and strengthening community action for health.

In a longitudinal study, Schmeelk-Cone and Zimmerman (2003) found that students who perceived lower levels of stress performed overall better at school (they had better grades and advanced further in school) than those students who perceived higher levels of stress. Additionally, research has shown that performance at school is related to level of education and salary later in life (NIFU, 2015). Level of education and salary also relate to health. Those with higher education and high income have, overall, better health than those with lower education and lower income (The Norwegian Directorate of Health, 2015). Level of education and income are related to social economic status (SES), which again is related to health. Those who have a high SES also seem to be healthier and live longer. From the findings in this thesis we cannot imply whether female IBDP students’ levels of stress and

social economic status (SES) are related as further research is needed.

### **Future Research**

Since the aim was not to examine how much stress the female students experienced, this present study cannot say anything about the difference between activation of arousal in relation to experience, coping, and causes to stress. However, it would be highly interesting to investigate these in the future. Future should combine qualitative and quantitative approach and explore the differences between students with low and high levels of stress, whether there are differences in their experiences of stress, stimuli, and coping strategies. Future research should look more closely at the possible differences between IB1 students and IB2 students in relation to stress. Another interesting approach would be to explore how male and female students may experience stress differently, as well as what stresses them considering the different societal pressures that still exist for men and women. Today, while we do know that Norwegian female students perceive more stress than males do, we do not know if the difference arise because of how they perceive stress, of academic-related factors or non-academic ones. Finally yet importantly, future research ought to include both IBDP students and students from other programs. If we learned something in this study concerning the IBDP students, we need to be also know about the general education students stress experiences.

### **Conclusion**

School was undoubtedly the major area where the students experienced stress. Stress stimuli related to their academic struggles, the constant effort to balance time and demands, the heavy workload, the fear of not performing and achievement pressure. Additional stress stimuli came from family (relationships and obligations), social media (always expected to be online), friends (expectations and demands for time), and worrying about getting into universities and colleges. The participants in this study were always a bit stressed and sometimes very stressed. Their level of stress was related to time, deadlines, and workload.



Two types of stress were experienced: acute stress, which was experienced as an adrenalin rush and sudden tightness in the chest, and which usually did not result in a good piece of work; and sustained stress, which was experienced as building up over time, demanding, tiring, causing loss of sleep, and very often resulting in physical symptoms like headaches. The sustained stress also resulted in a state where the students were unable to do anything.

Social support, time and task management, taking brief or longer breaks, redirecting their thoughts, control, and working hard were key coping strategies that the female students used to handle the stress they experienced. Having good and loyal friends, a good relationship with their parents, and a good class environment were highlighted as important elements for coping with academic struggles. The students invested time to build and keep good friendships and the size of the classes played a major role in why the class environment was a supportive one. Planning was an important tool for preventing stress from building up, and especially prioritizing schoolwork. Compromising the quality of schoolwork, getting mad, and yelling and crying were identified as ineffective coping strategies. The present study illustrated the importance of social support and healthy environments in relation to coping with stress. Having a future goal or specific ambitions also facilitated coping. Even though they knew IB would cause a lot of stress for them, the students focused on the positive outcomes. Though stress was experienced as something uncomfortable, by and large the students managed to use effective coping strategies to handle the stress they experienced. The findings of this thesis show out the importance of further research on the subject of stress and adolescents in Norway.

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**Appendix A: Information Letter**

“Stressors experienced by female students enrolled at an International Baccalaureate programme in Norway”

**Background and purpose**

The aim of this study is to look into different things that can make young girls feel stressed.

As a student at the IBDP in Elverum high school, you are invited to participate in this study.

**What does participating in the study involve?**

You will be interviewed once about what you think causes stress in your life. The interview will take about 45-60 minutes. All information will be audio-recorded and stored safely on my password-protected computer. The data and information about you will be coded, and cannot be traced back to you by anyone else. The coding key will be stored separately from the rest of the data. Only I, the researcher, will know the password.

A short while after the interview you will receive an email from me, with the interview written down word for word. I will ask you to read through it, and verify that it is what you said and meant in the interview, or make any necessary changes you deem appropriate.

The study will end on May 23<sup>rd</sup> 2017. All information recorded will be deleted at the beginning of July. All notes and information obtained about you will also be destroyed at this time.

**Voluntary participation**

It is voluntary to participate in the study, and you have the right to withdraw at any time without giving a reason. You have the full right to withdraw from the study, even after the consent form is signed. If you choose to leave the study, please contact me and all of your information will be deleted.

If you choose to participate in this study please sign this consent form. If you sign the consent, you consent that you understand the information you are given, and you are participating in the study of your own free will.

If you require further information, please contact me, Sara Tokheim  
email: [saratokh@gmail.com](mailto:saratokh@gmail.com), tel.: 95027039,

or my supervisor Stiliani Chroni:  
email: [stiliani.chroni@hihm.no](mailto:stiliani.chroni@hihm.no), tel.: 97631001

The study was reported and approved by the “Personvernombudet for forskning, NSD- Norsk senter for forskningsdata AS” [Data Protection Official for Research].

**Consent form**

I am informed about the study and freely participating

---

(Signing of the participant, date, place)

## **Appendix B: Interview Guide**

### **Introduction**

Hi, before we start the interview, I want to thank you for taking the time to do this interview. These interviews are a part of the way to get the most important and interesting information for my master's research project. I will ask you questions about your experience of being a student at IBDP and about what makes you feel stressed. During the interviews I ask you to reflect and share your thoughts, and I assure you, there are no right or wrong answers. It is your lived experience I want to hear about and your reflections upon this. If any of my questions make you feel uncomfortable please let me know and I will withdraw the question.

Except for me, the only person who will read the transcribed material is my supervisor. All information and transcribed data will be stored on my password protected PC. Personal information about you will not be included in any document or publication. Your name will be changed to a code name, and the key of codes will be stored on my password protected PC in a separate document. Audio recordings and transcribed material will be deleted in July. I also want to remind you once again that you have the right to withdraw from the study at any time, without giving a reason. Your participation in this study is voluntarily.

If you want to talk to someone about your thoughts and feelings that may arise during or after the interview, the school nurse is available. The school nurse has also signed a confidentiality agreement, meaning he or she cannot reveal your name to anyone as a participant in this study. The director of the IBDP is also informed about the study and has also signed a confidentiality agreement.

If you don't have any questions, I will start the recorder and let's get started.

**Interview questions**

1. Do you want to start with describing a typical day in your life?
  - a. How would you describe yourself?
  - b. Do you want to tell me about your parents? About siblings, if any? About your family?
  - c. And how about friends or peer students?
  - d. Do you want to tell me about why you chose to enrol in an IB program?
2. Do you want to tell me about how it is to be a student at an IBDP?
  - a. How are your school days structured?
    - i. Do you have a lot to do?
    - ii. What do you think is the benefits of IB?
    - iii. What do you think are the downside with IB? If any...
  - b. How are the relationships among students at the IB program?
  - c. How about the assignment you have to complete?
    - i. Are these easy, too demanding? Exams, assignments, graded work
3. Lets change the focus a bit! What is the first thought that pops up in your mind when I say the word stress?
  - a. What is stress for you?
    - i. How does it feel?
    - ii. How often does it happen?
    - iii. Do you understand it right away when it happens or does it take you some time?
  - b. What do you think causes stress for you?
  - c. What are your thoughts about stress?
  - d. Are there people, situations, or specific things that make you feel stressed?

- i. Can you give me some examples?
    - ii. Can you think of other things or people that make you feel stressed?
    - iii. Is there anything that happens every day in your life that you get stressed by?
  - e. Can you share of situations in your life that you felt were stressful and you handled well?
    - i. When was this?
    - ii. What did you think and do during this event?
    - iii. How did you feel in this situation?
  - f. Can you think of a situation when you were stressed, and you did not handle it very well?
    - i. What did you think then?
    - ii. How did it feel?
    - iii. Do you think you could have handled it differently today?
  - g. Are there things or people you get stressed by that you cannot cope with? Can you give me examples?
- 4. If you again think back to the time before you entered the IBDP, are there different causes to stress then and today?
  - a. How did you experience stress before entering IB? Is it different from how you experience it today?
  - b. How was your life then compared to now?
    - i. Are you still engaged in the same after school activities as you did before IB?
      - 1. What do you like about these activities?

- c. What do you think is the main difference in your life between now and before IB? If there is any difference?
- 5. Do you think stress is different for you than for other high school students?
  - a. What do you think is more stressful for you?
  - b. Less stressful?
  - c. Do you think other high school students experience stress the same way as you do?
- 6. When you experience stress, how do you deal with it?
  - a. Do you talk to the other students, family, teachers, friends or others about the stress you are experiencing?
    - i. If yes, how do they respond?
      - 1. How do they support you?
    - ii. If no, why not?
  - b. Do you do anything specific to handle stress?
    - i. Do you actively do something to reduce or remove stress?
- 7. Before we end this interview I want you to have the chance to add anything that you have come to think of.

**Closing**

Once more, I want to thank you so much for taking your time to do this interview. When I am finished transcribing the interview, I will send it to you by e-mail, so you will have a chance to read through it and confirm this is what you wanted to say, or to make any changes that are necessary.

**Appendix C: Introductory Questionnaire**

Gender:

- ☐ Female
- ☐ Male

Year of birth:

Place of birth:

Where do you live now?

With whom do you live?

- ☐ At home with my parents
  - ☐ Alone
  - ☐ With friends
  - ☐ Other, what?
- 

Do you have siblings?

- ☐ No
  - ☐ If yes, how many?
- 

What year of high school are you attending right now?

- ☐ VG2
- ☐ VG3

Do you have any after school activities?

- ☐ No
  - ☐ If yes, what?
- 

Do you use time after school to study? (Choose one answer)

- ☐ No
- ☐ Sometime
- ☐ Often
- ☐ Every day

If you use time after school to study, how much time a day? (Choose one answer)

- ☐ Less one hour
- ☐ One hour
- ☐ Two hours
- ☐ Three hours
- ☐ More than three hours

Are you satisfied with how well you are doing at school? (Choose one answer)

- ☐ Very satisfied
- ☐ Satisfied
- ☐ OK
- ☐ Unsatisfied

Do you think school is stressful? (Choose one answer)

- ☐ At all times
- ☐ Often
- ☐ Sometimes
- ☐ Once in a while
- ☐ No, it isn't

On a scale from 1-5 (where 1 is not stressful and 5 is very stressful) how stressful do you think school is? (Choose one answer)

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

Do you think life as a teenager is stressful? (Choose one answer)

- ☐ Yes, at all times
- ☐ Yes, sometimes
- ☐ No, it isn't

On a scale from 1-5 (where 1 is not stressful and 5 is very stressful) how stressful do you think life as a teenager is? (Choose one answer)

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

If you would like to help us learn more about what could stress girls, please give us your name and contact info. We may contact you soon to invite you to an interview that will take place here at the school, during after school hours when everyone has left the school.

Name: \_\_\_\_\_

Tel.: \_\_\_\_\_

Email: \_\_\_\_\_

### Appendix D: Confidentiality Agreement

#### Confidentiality Agreement for Project Members in Connection with Research Projects

Title of the project: .....

Purpose: .....

Project manager: .....

Project team members:

.....  
 .....  
 .....

The project is reported to REK/NSD .....(semester and year)

The project is not reported to REK/NSD – short description of the reason why:

.....  
 .....  
 .....  
 .....  
 .....  
 .....

This declaration of confidentiality is founded on the following acts:

#### **The Health Personnel Act:**

Health personnel shall prevent others from gaining access to or knowledge of information relating to people's health or medical condition or other personal information that they get to know in their capacity as health personnel. (§21)

Health personnel are personnel with authorisation or license, personnel in the health services or in pharmacies who provide health care, pupils and students who provides health care. (§ 3)

**Cooperating personnel and persons providing assistance with electronic processing of confidential information are subject to the same duty of confidentiality as health personnel. (§ 25)**

The duty of confidentiality shall apply correspondingly for personnel employed in patient administration.(§ 26)

#### **The Public Administration Act, §13:**

It is the duty of any person rendering services to, or working for, an administrative agency, to prevent others from gaining access to, or obtaining knowledge of, any matter disclosed to him in the course of his duties concerning:

1) an individual's personal affairs, or

2) technical devices and procedures, as well as operational or business matters

which for competition reasons it is important to keep secret in the interests of the person whom the information concerns.



**The Public Administration Act, § 13e:**

It is the duty of any person who performs any service or work in connection with a research assignment which an administrative agency has supported, approved, or to which it has provided information subject to a duty of secrecy, to prevent others from gaining access to or knowledge of:

1. information subject to a duty of secrecy which the researcher obtains from an administrative agency,
2. information received from private sources upon pledge of secrecy in connection with the research, and
3. information concerning persons who are dependent upon the body (school, hospital, institution, enterprise, public authority etc.) which has arranged for their contact with the researcher.

**Specialist Health Services Act, § 6-1:**

Any person who renders services or work for health institutions subject to this act, has a duty of confidentiality in accordance with the Public Administration Act §§ 13 to 13e. The duty of confidentiality also applies to birthplace, date of birth, personal identification number, citizenship, marital status, occupation, place of residence and workplace. Information regarding the patient's whereabouts may still be given if it is evident that providing this information will not damage the trust towards the health institution.

The duty of confidentiality applies at any time (also during spare time, after the end of the project)

The duty of confidentiality applies in principle to **all others, except persons subject to a duty of confidentiality and who have access to the exact same information as you in connection with the same project**. Accordingly, I hereby oblige myself to secrecy relating to any information I receive about anyone's private situation when I am on official business. The declaration requirements do not only apply externally, but also to other employees and representatives who are considered to be unauthorized in connection with the case.

.....  
Place

.....  
Date

.....  
Signature

## Appendix E: Taushetserklæring

### Taushetserklæring deltakere i helseforskningsprosjekter

Prosjekttittel: .....

Formål: .....

Prosjektleder: .....

Prosjektmedarbeidere (ansatte, studenter, andre): .....

.....  
 .....  
 .....  
 .....  
 .....  
 .....

Prosjektet er meldt REK/NSD (dato, referanse) .....

Prosjektet er ikke meldt REK/NSD – kort begrunnelse:

.....  
 .....  
 .....  
 .....  
 .....

Denne erklæringen om taushet er hjemlet i følgende lover:

#### **Helsepersonelloven:**

Kap. 5: §21 Hovedregel om taushetsplikt: «Helsepersonell skal hindre at andre får adgang eller kjennskap til opplysninger om folks legems- eller sykdomsforhold eller andre personlige forhold som de får vite om i egenskap av å være helsepersonell».

Kap. 5: §21a: Forbud mot urettmessig tilegnelse av taushetsbelagte opplysninger: «Det er forbudt å lese, søke etter eller på annen måte tilegne seg, bruke eller besitte opplysninger som nevnt i §21 uten at det er begrunnet i helsehjelp til pasienten, administrasjon av slik hjelp eller har særskilt hjemmel i lov eller forskrift».

Med helsepersonell menes i denne lov (kap. 1: §3):

- personell med autorisasjon eller lisens
- personell i helsetjenesten eller i apotek som yter helsehjelp
- elever og studenter i forbindelse med helsefaglig opplæring utfører handlinger som nevnt i tredje ledd (helsehjelp)

Samarbeidende personell og personer som bistår med elektronisk bearbeiding av taushetsbelagte opplysninger har samme taushetsplikt som helsepersonell. (§ 25). Taushetsplikten gjelder tilsvarende for personell i pasientadministrasjon. (§ 26)

#### **Forvaltningsloven §13:**

Enhver som utfører tjeneste eller arbeid for et forvaltningsorgan, plikter å hindre at andre får adgang eller kjennskap til det han i forbindelse med tjenesten eller arbeidet får vite om:

- noens personlige forhold, eller
- tekniske innretninger og fremgangsmåter samt drifts- eller forretningsforhold som det vil være av konkurransemessig betydning å hemmeligholde av hensyn til den som opplysningen angår.

**Forvaltningsloven, § 13e:**

Enhver som utfører tjeneste eller arbeid i forbindelse med en forskningsoppgave som et forvaltningsorgan har støttet, godkjent eller gitt opplysninger undergitt taushetsplikt til, plikter å hindre at andre får adgang eller kjennskap til:

1. opplysninger undergitt taushetsplikt som forskeren får fra et forvaltningsorgan,
2. opplysninger som i forbindelse med forskningsarbeidet er mottatt fra private under taushetsløfte, og
3. opplysninger som gjelder personer som står i et avhengighetsforhold til den instans (skole, sykehus, anstalt, bedrift, offentlig myndighet m.m.) som har formidlet deres kontakt med forskeren.

**Spesialisthelsetjenesteloven §6-1:**

Enhver som utfører tjeneste eller arbeid for helseinstitusjon som omfattes av denne loven, har taushetsplikt etter forvaltningsloven §§ 13 til 13e. Taushetsplikten gjelder også pasientens fødested, fødselsdato, personnummer, statsborgerforhold, sivilstand, yrke, bopel og arbeidssted. Opplysning om pasientens oppholdssted kan likevel gis når det er klart at det ikke vil skade tilliten til helseinstitusjonen.

Taushetsplikten **gjelder til enhver tid** (også i fritid, etter at arbeidsforholdet er opphørt og lignende).

Taushetsplikten gjelder i utgangspunktet overfor alle andre, med unntak av personer underlagt taushetsplikt og som har tilgang til akkurat de samme opplysningene som deg i samme prosjekt.

I samsvar med dette erklærer jeg å forplikte meg til taushet om alt jeg i stillings medfør får vite om noens private forhold. Taushetsplikten gjelder ikke bare utad, men også overfor andre ansatte og tillitsvalgte for hvem saken/forholdet må anses uvedkommende. Opplysninger som jeg iht. mitt arbeidsforhold plikter å holde min overordnede orientert om, omfattes ikke av taushetsplikten. Det samme gjelder opplysninger som jeg etter andre lover eller rettens kjennelse er pålagt å gi.

Sted: \_\_\_\_\_ Dato: \_\_\_\_\_

Navn i blokkbokstaver: \_\_\_\_\_

Signatur: \_\_\_\_\_

## Appendix F: NSD Approval



Stiliani Chroni  
Institutt for idrett og aktiv livsstil Høgskolen i Hedmark, campus Elverum  
Postboks 400  
2418 ELVERUM

Vår dato: 19.12.2016

Vår ref: 50949 / 3 / AH

Deres dato:

Deres ref:

## TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 04.11.2016. Meldingen gjelder prosjektet:

50949	<i>Stressors experienced by girls enrolled at an International Baccalaureate Diploma Program in Norway</i>
Behandlingsansvarlig	Høgskolen i Hedmark, ved institusjonens øverste leder
Daglig ansvarlig	Stiliani Chroni
Student	Sara Tokheim

Personvernombudet har vurdert prosjektet, og finner at behandlingen av personopplysninger vil være regulert av § 7-27 i personopplysningsforskriften. Personvernombudet tilrår at prosjektet gjennomføres.

Personvernombudets tilråding forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i melde skjemaet, korrespondanse med ombudet, ombudets kommentarer samt personopplysningsloven og helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, <http://www.nsd.uib.no/personvern/meldeplikt/skjema.html>. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, <http://pvo.nsd.no/prosjekt>.

Personvernombudet vil ved prosjektets avslutning, 23.05.2017, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen

Katrine Utaaker Segadal

Åsne Halskau

Kontaktperson: Åsne Halskau tlf: 55 58 21 88

*Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.*

**Appendix G: Comparison between the TTS, the CMRTE and the CATS**

Table 1

*Comparison between the TTS, the CMRTE and the CATS*

	TTS*	CMRTE*	CATS*
Explains stress in different stages separately	X	X	X
Explains stress in different stages in relation to each other			X
Stress is a transactional relationship between the individual and the environment	X	X	
Coping in relation to the stimulus and the stress response			X
Coping in relation to the stress response	X	X	X
Imbalance between demands and what the individual appraises to cope with or not might result in stress reaction	X	X	X
When there is stress, there are also emotions		X	
Stress can be both positive and negative	X	X	X
Coping depends on expectancy and previous experiences (learning theory)			X
Coping depends on appraisal	X	X	
Stress experience			X

\*Note. TTS = Transactional theory of stress; CMRTE = Cognitive-motivational-relational theory of emotions; CATS = Cognitive activation theory of stress.

### Appendix H: Thematic Map of Female Norwegian IBDP Students' Stressors

Table 2

*Thematic map of female Norwegian IBDP students' stressors*

Raw data	Code	Theme	Overarching Theme	
I have a lot to do that causes stress for me...	Volume of assignments	Academic assignments	Academic stressors	
suddenly so many things at the time...	Overlapping due dates for assignments or tests			
we are all stressed out about exams and tests and things like that	Worries about upcoming exams, assignments and tests			
Not understanding a task, that is when I am stressing the most when I have that down to the minute thing, I'm thinking "oh I need to hurry up, cause I only have one minute left if this"	Not understanding a task			
at least what's stressing me right now, isn't the subjects that I like, but the subjects that I sort of have to have...	Planning			
just the fact that I'm IB student, that I should be stressed, that stresses me out	Not enjoying the subject	Achievement pressures		
I want to be that next level of talented	School's high standards and reputation			
they're all like saying ... "you can do anything you want to because you are going to go to a great college. And you are going to do all of this"...	Student's own high standards			
they think that I like this super smart kid who is going to rule the planet someday, because I go IB...	Parents' expectations for success			
We're stressed about grades...	Friends expectations for success			
I am afraid I won't be good enough for something	Getting the right grades	Insufficient time	Constant efforts to balance time and demands	
and that stresses me out, that I'm gonna fail	Not feeling good enough			
I really want to get a great score, so I can go to a good college	Fear of failing			
so I can stress when WE are late	Worries about getting into a preferred college			
that you don't have enough time doing anything...	Being late			
but then sometimes when I feel sort of too bad about watching the movie, then I don't do it, because I feel like I don't have the time	Too much to do and insufficient time	Problematic approaches to school and taking breaks		
I'm a bit of a procrastinator. And that also adds to the stress...	Taking break when there is no time to do so			
it was the new subjects that was kind of stressing	Procrastination			
	Adjusting to new school or grades			

my mom is planning summer vacation, and that stresses me out a little bit...	Time-consuming obligations and tasks	Family	Non-academic stressors
we're stressed about the people around us whether or not...	Being accepted	Social	
if one of my friends is going to something, and they would like to talk about, and I feel like, I can't really be helpful to them at that time	Friends wanting attention		
I get stressed when my friends get stressed	Gets stressed when others are stressed		
You know seeing when other friends are having fun together and you are not there...	Seeing friends having fun		
I feel like I have to pass the first time	Fear of not passing the driver license test the first time	Teenager	
you feel the pressure [good girl pressure] of having to do all these things	Expectations from society		

### Appendix I: Thematic Map of Female Norwegian IBDP Students' Stress Experience

Table 3

*Thematic map of female Norwegian IBDP students' stress experience*

Raw data	Code	Theme	Overarching Theme
my hands are always shaking ... I get really shaky when I get stressed	Hands shaking	Physical signs of stress	Becoming aware of stress
I also get this feeling I can't really breathe under stress	Hard to breath		
the moment that I don't understand something then I am realizing that I am stressing	Insecurity	Mental signs of stress	
the panicky stress comes right away	Panic		
I just feel so bad all the time.	Feeling bad		
I think it actually has to reach a limit where I actually feel really stressed, that "now it is too much for me"	Heightened stress before noticing	Level of stress	
I feel a little stressed every day	Constantly a little stressed		
there is not so much stress some days, then others	Variation in felt stress		
it's stressful, but not as stressful as I had expected. I had expected that, mine would be through the roof by now	Expected more stress		
I probably get it [stress] more frequently now. You know in the later years. And especially after I joined the IB	Increased frequency of stress		
Stress would probably just be this this dreaded feeling that "oh, gosh not again, I am going to fail!"	Fear of failing	Feelings and thoughts	The feeling of stress
after it builds up a lot it's just, you almost feel like you are going to cry. Because it's just like too much is building on your shoulders, because you have just so much pressure on you, and expectations.	Pressure and expectations		
it was a lot more terrifying all of a sudden no build up, it was just all of a sudden this rush of emotions	Adrenalin and panic		
that you have that feeling inside that you have to finish something and you're feeling that you cannot finish it	Restless		
I feel like I get stressed because I get easily headache or fast heartbeat	Fast heartbeat		
I kind of get sick. I get tired. I'm getting stressed, (small pause) it's kind of a biting feeling, that it's just it's not something that, suddenly stops, it kind of like hangs in a little after	Tired and sick		
it [stress] almost feels a little bit claustrophobic.	Claustrophobic		



it [stress] builds on you a little bit, but then it's just keeps on building up	Slowly builds up	Emerging and fading	Reaction to stress response
I sometimes cry	Crying	Emotional reaction	
I would just yell at someone ...	Yelling		
when I get stressed I sort of loose control, and I start crying and I sort of wanna give up	Loss of control		
I get really really tense [when stressing]	Tensed muscles	Physical reaction	
when I get stressed I get really bad headaches and migraines	Headache and migraine		
you are put out to do anything	Unable to do anything		
I struggled sleeping without thinking of all the things I have to do	Loss of sleep		
get more positive and I'm a lot more relaxed	Tension loosens up	Relief	
I just feel so much relief [after being very stressed], and that's probably great!	Relief when stress eases		

## Appendix J: Thematic Map of Female Norwegian IBDP Students' Coping

Table 4

*Thematic map of female Norwegian IBDP students coping*

Raw data	Code	Theme	Overarching Theme
I have a board in my room, a write board, where I write down all I have to do, when I have to be finish with it	Manage time (e.g., planning, to do lists, study effectively)	Efficient time and task management strategies*	Managing time and task
if you do it, it's not stressful at all	Tackle the work ("just do it")		
I try to go to sleep, so I get a lot of sleep	Sufficient sleep to recharge and maintain health		
when I get an extension, I'm not sort of stressed anymore	Request deadline extension	Ineffective time and task management strategies**	Managing time and task
I'm able to be very productive, because I know that I only have like two hour to do this, like, I only have to do it! But the results aren't so good usually	Compromise quality of work to complete it		
I do something active	Exercise (swim, run, strength training etc.)		
Just do something else; just kind of make my mind forget about what I was stressed about	Taking breaks	Engage in temporary distractions*	Taking breaks
watch an episode of something, just to think of something else that is not school related	Technology (TV, use phone, use computer etc.)		
I also go on walks to clear my head	Go outside for a walk/ fresh air		
I will read some more	Read for pleasure		
mostly I clean	Cleaning	Relax*	Managing time and task
I just learned to take I deep breath sometimes	Use relaxation techniques, e.g., deep breathing		
you can talk more openly about sort of what you are doing both sort of good and bad. Because of a lot of people are in the same situation as you	Turn to classmates for help or information	Seek support from peers*	Support from others
I think that they often, they are really great at giving me advice, or we give each other advice	Invest in close friendships for emotional support and help		
that's kind of a good feeling to know that they are in the last year, and not stressed so	Turn to older students	Become upset	
he is the same way. So he he understands that it's just a feeling [feeling of stress]	Turn to significant other (boyfriend)		
She is more honest than just saying stuff that really isn't the way that it is, but should be	Honesty	Become upset	
I just get mad	Become angry		

I can get, yea I'm frustrated [when she is stressed]!	Become frustrated	or emotional**	
I remember just crying so badly in front of my father	Crying		
I feel like they [parents] help me a lot if I feel frustrated or stressed out	Turn to parents for emotional support, advice, academic support, perspective, and practical help	Seek support from parents*	
I keep a diary, and I would just sort of put it all in there	Handle it alone	Avoid turning to others*	
writing it down, to see what I'm really stressing about	Put problems in perspective (e.g., thinking others' have it worse)		
it is easier to handle stressful situations when you ... sort of know that there will be a reward in the end	Focus on positive aspect of situation (e.g., future benefits)	Cognitive reappraisal*	Redirecting thoughts
So then I can just like layer things so that nothing builds up, but everything just feels okay	Feeling in control	Controlling the stressor	Perceived control

Note. \* Perceived as effective coping strategies, \*\* Perceived as ineffective coping strategies

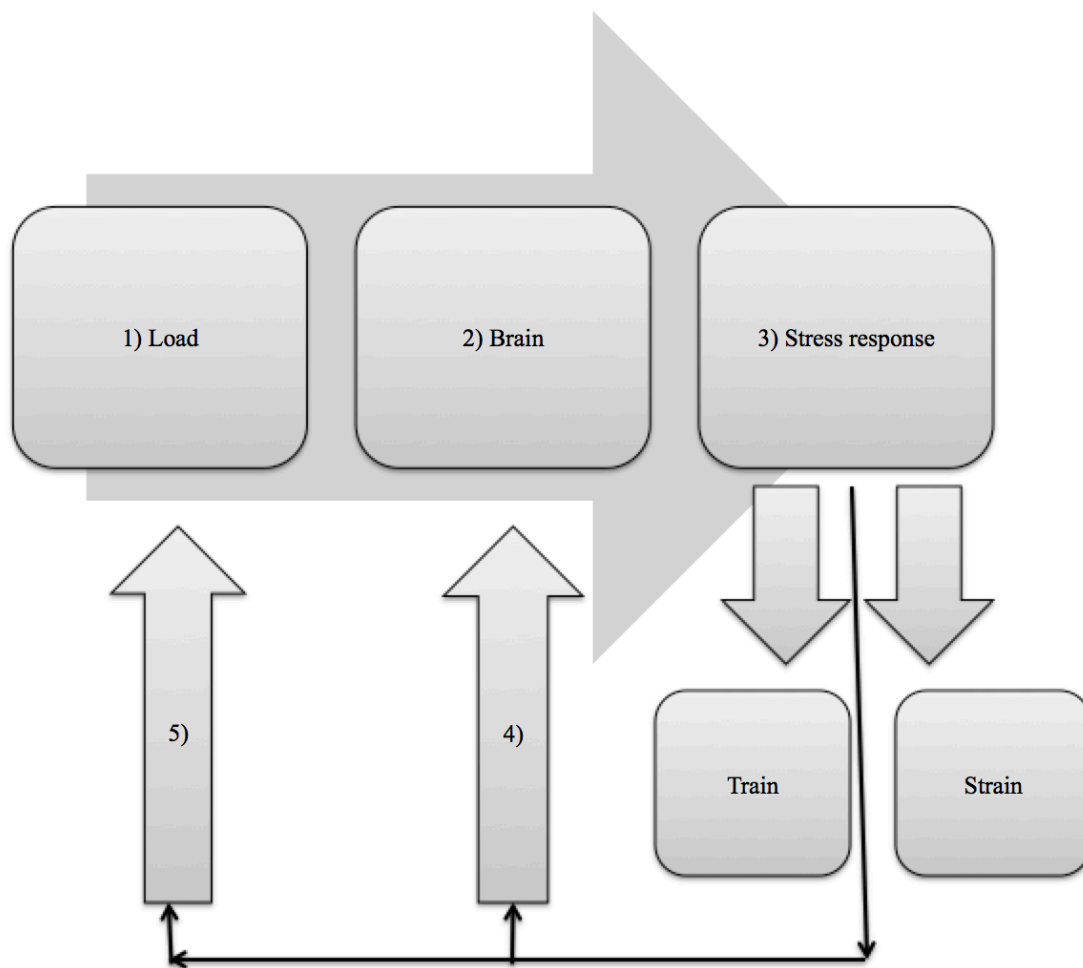
**Appendix K: Thematic Map of Environmental Factors that Facilitate/Debilitate Coping**

Table 5

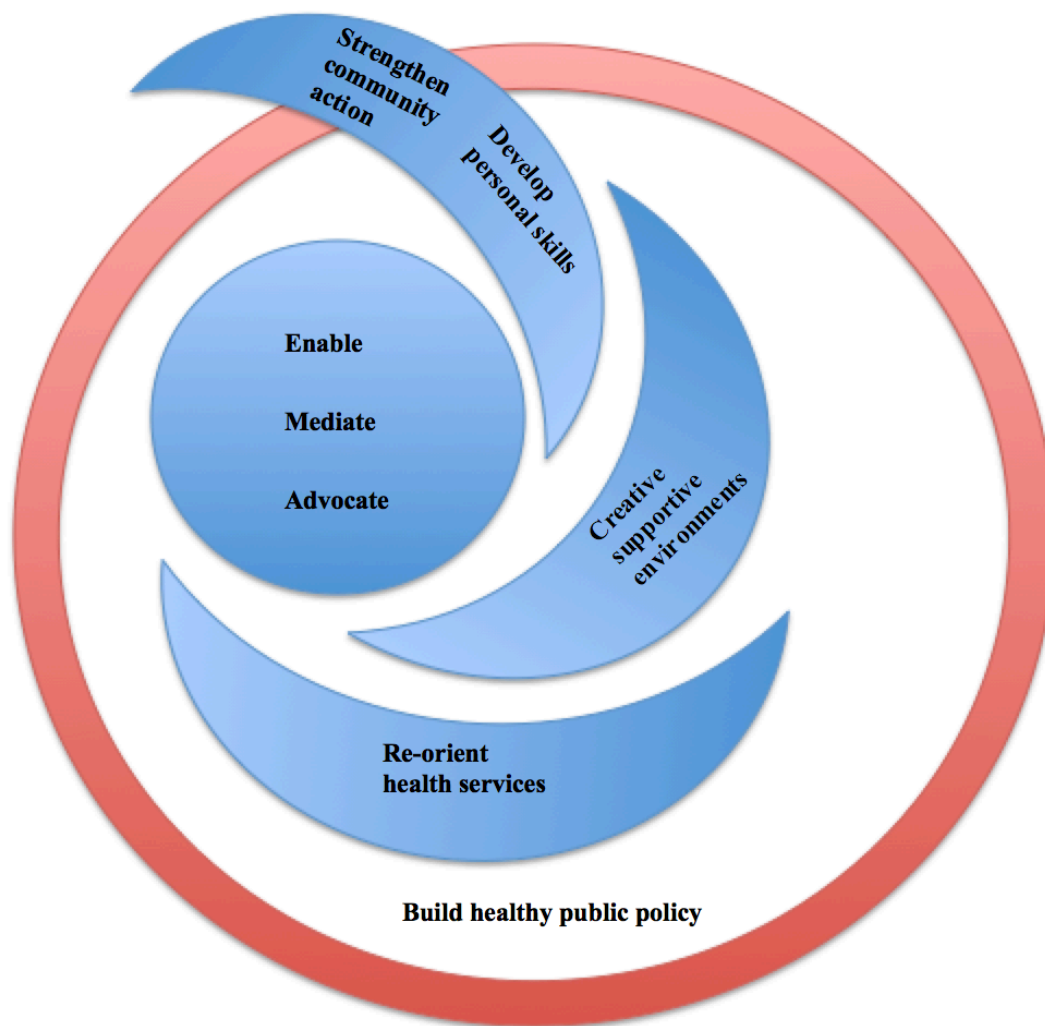
*Thematic map of environmental factors that facilitate/debilitate coping*

Raw data	Code	Theme	Overarching Theme
you have small classes so it easier to get help from the teacher	Size of class	IB*	Facilitative factors
when you were prepared for the English part it made it easier	Pre-IB		
in IB we are graded by our teachers but in the exams we are graded by people that don't know who the heck we are. So nothing is biased	Grading system		
teachers who really love what they are doing	Caring teachers		
you get to also be in a class with people that is as dedicated in a way as you are to do well at school	Class environment		
but to just do CAS, helps you relax, do non-school things while it is school in a way. You don't think at it as school	Subjects	Living situation	Debilitative factors
I live in a dorm [and therefore] I have more responsibilities, which means that I have more control over everything	Higher control over life		
sometimes when it's not good planned [from the teachers] then that's a thing that stresses me more	Planning	Ineffective planning of work**	Debilitative factors

Note. \* Perceived as effective coping strategies, \*\* Perceived as ineffective coping strategies

**Appendix L: The Four Aspects of Stress in the Cognitive Activation Theory of Stress**

*Figure 1.* The four aspects of stress in the Cognitive Activation Theory of Stress

**Appendix M: The Ottawa Charter for Health Promotion**

*Figure 2.* Ottawa Charter for health promotion